EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI

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This is to certify that this dissertation titled, "**EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI."** is a bonafide work done by **Mrs. M. KOMALAVALLI**,M.Sc (N) student,College of Nursing, Madurai Medical College, Madurai-20, submitted to THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, Chennai in partial fulfillment of the university rules and regulations towards the award of the degree of MASTER OF SCIENCE IN NURSING, BRANCH III, OBSTETRICS AND GYNECOLOGICAL NURSING under our guidance and supervision during the academic period from 2013-2015.

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ABSTRACT

Title: Effectiveness of breast crawl on selected maternal outcomes among mothers in labour ward at government rajaji hospital, madurai.**Objectives:** To assess the post test level of selected maternal outcomes among mothers in experimental and control group,to evaluate the effectiveness of breast crawl on selected maternal outcomes among mothers in experimental and control group and to associate post test level of selected maternal outcomes among mothers in experimental group with selected demographic and clinical variables**. Hypotheses:** There is a significant difference between the post test level of selected maternal outcomes among mothers in experimental and control group. There is significant association between the post test level of selected maternal outcomes in experimental group and selected demographic and clinical variables. **Conceptual framework:** Modified Ernestine Widenbech's model of midwifery practice. **Methodology:** True experimental post test only design was used. 60 mothers were selected through simple random sampling using flip the coin method from labour ward in Governmenta Rajaji Hospital, Madurai. LATCH scale, numerical visual analogue pain scale and blood drape was used to assess the effectiveness of breast crawl. Breast crawl technique was performed and the mothers were assessed in the first and second postnatal day. The data were analyzed using descriptive and inferential statistics. **Results:**Breast crawl technique had a significant positive impact on the onset of lactation, episiotomy suturing pain perception level, time of placenta separation, blood loss during delivery and postnatal day and involution of uterus per postnatal day at $p<0.001$level. **Conclusion:** Breast crawl technique was an effective intervention to initiate breast feeding, reduce blood loss during delivery, reduce the time of separation of placenta, helps in early involution of uterus and reduce the episiotomy suturing pain perception level.

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INTRODUCTION

CHAPTER I

INTRODUCTION

"God could not be everywhere,

So he created mothers."

- Jewish proverb

The very definition of a mother is selfless service to another. We don't owe Mother for her gifts; she owes us. The Arabs also have a saying: **"The mother is a school; if she is well reared, you are sure to build a nation."** The physiological transition from pregnancy to motherhood heralds enormous changes in each woman physically and psychologically. Labour, the culmination of pregnancy, is an event with great psychological, social and emotional meaning for the mother and her family. In addition, the woman may experience stress and physical pain and danger may lurk around the corner. The goal of maternity care is a healthy pregnancy with a physically safe and emotionally satisfying outcome for mother, infant, and family. Consistent health supervision and surveillance are of utmost importance in achieving this outcome.

If a foetus has been fortunate enough to spend his fully allotted 266 days in the womb since conception, he has had the luxury of having all his emerging developmental needs met. The uterus and the placenta have provided warmth, protection, nutrition and oxygen, as well as close and continual proximity to the mother's heart and voice. Being in the womb is the "natural habitat" for the unborn foetus. After birth, the mother's body and breasts take over the function of the uterus and placenta in providing warmth, protection, nutrition, and support for optimal oxygenation, as well as close and continual proximity to the mother's heart and voice.

Being skin to skin with the mother is the newborn infant's "natural habitat" — the one place where all his needs are met. This is true for all mammals and can readily be seen in the animal world. Everywhere one looks in nature, mother and newborn mammals are as close as they can get to each other skin to skin or fur to fur. Nature is wise and provides instincts that drive behaviours designed to assure survival of the species.

This is a mother and baby friendly document. Hence it starts with ‘Ten Steps to Successful Breastfeeding’ which also form the basis of ‘Baby Friendly Hospital Initiative’. This document aims at strengthening ‘Step 4’ by focussing on nature’s miraculous way of initiating breastfeeding by a phenomenon called ‘Breast Crawl’. Every newborn, when placed on mother’s abdomen soon after birth, has the ability to find its mother’s breast all on its own and to decide when to take the first breast feed. This is called Breast Crawl. It was first described in 1987 at the Karolinska Institute in Sweden. Marshall Klaus reviewed many studies on Breast Crawl and gave a beautiful description of Breast Crawl in 1998.The credit for using the word Breast Crawl as a noun for the first time should be given to Klaus. The starting position for Breast Crawl (nose of newborn in the middle of mother’s breast, eyes at the level of the nipples) had been specified by Varendi.et al in 1996.In India Breast Crawl was first experimented and continued as a method to initiate breast feeding in ‘Grace Maternity Home’, Mumbai.

Everything in Breast Crawl is perfectly designed by nature. The skin-to-skin contact helps the baby to remain warm and initiates mother-baby bonding. The baby smells food close by, begins salivating, reaches areola and initiates breast feeding by itself. Recent behavioural and physiological observations found that infant and mother are ready to begin interacting in the first few minutes of life and also observed infant’s ability to crawl towards mother’s breast to initiate breast feeding by itself.

The most virtually striking observation of first minutes of life is the ability of a newborn if left quietly on the mother's abdomen after birth, to crawl towards her breast, find the nipple and begin to suckle.

The Breast Crawling procedure can be described in following steps. Immediately after delivery and baby started breathing well, baby should be thoroughly dried except for hands. Baby is then shown to the mother, kept close to her and held briefly in cheek to cheek contact which enables mother to kiss the baby. Then the baby is placed prone in between the mother's breasts. Both the mother's and baby's chest should be kept naked enhancing baby's full skin-to-skin contact with the mother. Mother and baby should be covered with a cloth. Kicks from the baby will give tender firm jerks to the womb stimulating it to contract which helps to expel the placenta and thereby reduces bleeding. Baby starts salivating once it realizes food is in close proximity. The odour of breast acts as strong stimulus to drive the baby towards nipple because the odour of a substance secreted by breast is similar to smell of a substance in amniotic fluid. Nipple massage by baby makes it protract enhancing attachment and also helps to release oxytocin in mother thereby reducing bleeding and maternal anemia. Baby starts to make mouthing movements. The amniotic fluid in baby's hands guides it to the nipple. The baby then reaches nipple, raises head and gets nicely attached onto the nipple with mouth wide open to take a mouthful of breast. The first skin-to-skin contact must continue until baby finishes her first breast milk.

Babies completing the 'Breast crawl' with spontaneous attachment is instinctive and almost a rule with very few requiring assistance. The Breast crawl is associated with a variety of sensory, central, motor and neuro-endocrine components, all directly or indirectly helping the baby to move and facilitate her survival in the

new world. The promotion of early initiation of breast feeding has great potential: 16% of neonatal deaths could be saved if all infants were breastfeed from day 1 and 22% if breastfeeding were started within the first hour after birth. All these advantages will obviously be maximally tapped with Breast crawl. In 2006, authorities of the WHO/ UNICEF and baby-friendly hospital initiative added an optional component to the baby-friendly assessment tools, which examines mother-friendly care. Each country will determine whether it will integrate this module as it updates assessment criteria and tool to the new standards. Implementing 'Ten steeps of mother friendly care' will facilitate successful initiation (Breast crawl). Hence, every maternity service should consider implementing these steps.

Breast Crawl has tremendous potential to change initiation practices. It deserves worldwide dissemination for improving initiating rates, breast feeding success and ultimately reducing neonatal, infant and under five mortality rate and morbidity by early initiation of breast feeding. Initiation of breastfeeding by the Breast Crawl is a critical component of the IYCF (Infant and Young Child Feeding) initiative for the state of Maharashtra, India. IYCF deals with nutrition of children from birth to 3 years of age, and also takes into consideration the nutrition of pregnant and lactating mothers. Two critical components of IYCF are breastfeeding and complementary feeding. Improved IYCF practices promote optimal growth and development, prevent malnutrition and improve child survival.

1.1NEED FOR THE STUDY

"Breast feeding the 1st hour - saves one million babies".

- World Breast Feeding Week 2007

The first hour after birth has a major influence on the survival, future health, and wellbeing of a newly born infant. The basic needs of a baby at birth are warmth, normal breathing, mother's milk and protection from infection. Early initiation of breast feeding serves as the starting point for a continuum of care for mother and newborn that can have long lasting effects on health and development. "While breast feeding may not seem the right choice for every parent, it is the best choice for every baby" said by Amy Sangler. Breast feeding is a natural human activity, difficulties are not common. Many health personnel in maternity services are unaware of implementing **BFHI (Baby Friendly Hospital Initiative)** recommendation of early initiation of breast feeding within one hour of birth. As a result, initiation of breast feeding is often delayed. Even in those places where health professionals are well informed and keen in early initiation of breast feeding programme, awareness of Breast Crawl is lacking.

Breast Crawl was described 20 years ago. In spite of its tremendous potential, it has failed to reach the beneficiaries (i.e. mothers and infants) at large because most article titles do not mention the term 'Breast Crawl', the internet search yields very few articles when search engines use this term and there is no widespread recommendation by BFHI (Baby Friendly Hospital Initiative) documents even though the body of scientific evidence is strong enough to recommend. It is a simplest method that provides prolonged skin-to-skin contact and will culminate in first breast feed. It is easy, does not require elaborate preparations, can be done in any settings and is readily reproducible.

Recently a group of care givers and community workers in Nandurbar District of Maharashtra, witnessed a demonstration of newborn performing Breast crawl. After the demonstration, all were so impressed that they decided to make the method part of their routine. In order to advance this initiative, UNICEF has partnered with various state and public health institutions such as Breast Feeding Promotion Network of India (BPNI) and is distributing an instructional film on Breast Crawl with specifics an each steps.

WHO and UNICEF recommended early initiation of breast feeding which results in lower neonatal mortality. Each year approximately 4 million newborn die, mostly from preventable causes. Deaths in the neonatal period accounts 41% of all deaths in children below five years and almost 99% of neonatal deaths takes place in low and middle income countries.In which India is leading with 28% of global neonatal deaths.Evidence shows that early initiation of breastfeeding can prevent 22% of all deaths among babies below one month in developing countries. About 16% of neonatal deaths could be prevented if all infants were breastfed from day 1 and 22% if breastfed within 1st hour after birth (**Edmond.et al.2006**).

Breast Crawl is evidence based and has been field tested. Initiation of breast feeding by Breast Crawl is a critical component of **IYCF** (Infant and Young Child Feeding). Breast Crawl generated such excitement and motivation and seemed to be best and easiest method to implement the BFHI Recommendation of early initiation of breast feeding.

Widstorm.et al (1987) firstly described Breast Crawl at Karolinska Institute in Sweden conducted studies on it. The findings in this study suggested that an organized feeding behaviour develops in a predictable way during the first hours of

life initially expressed only as spontaneous sucking and rooting movement, followed by hand-to-mouth activity and finally culminating in sucking of breast.

Christenson.et al (1992) conducted a study to compare temperatures of newborns who were kept in skin-to-skin contact with their mothers in Breast Crawl Position with those who were kept in cots in the first few hours after birth. They found that former had better body and skin temperature, higher blood glucose level and rapid recovery from transient acidosis at birth.

Based on community based prospective cohort study in rural Ghana conducted by investigators at London School of Hygiene and Tropical Medicine and similar community based observational study in Southern Nepal conducted by investigators at John's Hopkins Bloomberg School of Public Health and Nepal Nutrition Intervention Project, it is proved that later the initiation of breastfeeding, the greater the risk of neonatal deaths.

Moreover, maximum benefits of early initiation of breast feeding are best achieved with Breast Crawl. The benefits for both mothers and babies are as follows:

- It helps to keep the baby warm.
- Leads to faster and effective achievement of baby's feeding skills.
- Better mother-infant bonding.
- Baby starts getting colostrum as first feed and starts getting colonized by bacterial flora from mother which helps in offering protection against infections.
- Helps uterine contraction, faster expulsion of placenta, reduces maternal bleeding and prevents anemia.
- Enhances successful early and long term breastfeeding.

- Leads to better blood glucose levels and other biochemical parameters in first hours of birth.
- Boosts development of baby's nervous system.
- Offers proper acclimatization from intrauterine to extra uterine life.
- Promotes optimal maturation of gut and immune system.
- Reduces abandonment.

In Government Rajaji Hospital, the total number of deliveries in year of 2013-2014 is 13788. The number of deliveries per month is 1286 approximately. In which, normal deliveries – 603, Lower Segment Caesarean Section – 606, assisted breech deliveries – 19, forceps deliveries – 14 and vaccum deliveries – 8. The number of primi-para mothers with episiotomy is 283 and primi mothers without episiotomy is 18. The number of multi parity mothers with episiotomy is 292 and multi parity mothers without episiotomy are 30. Per year, in the deliveries, the number of babies with less than 2.5kgs is 311, 2.5kgs–3kgs is 524, 3kgs-4kgs is 449 and more than 4kgs babies is 3.

Nurses as health professional, if work in co-ordination as a team to bring forth and promote Breast Crawl initiative into maternity hospitals, it will be beneficial for mother and baby as well as for the entire family and country. The investigator had the chance to see the video when she visited the UNICEF website. She is attracted by the video and practiced the technique in her clinical posting. Therefore she takes this study to educate and motivate the hospital staffs and other workers for practicing this initiative which will be in turn contributing to healthy children and thereby healthy future citizens of our country.

Like all other gifts of nature, this gift comes free of cost. However the health and nutrition benefits of Breast Crawl will save millions of life and also will save

billions in terms of health cost. They will create a generation which will reach the highest human potential of growth and development.

1.2 STATEMENT OF THE PROBLEM

A study to assess the effectiveness of breast crawl on selected maternal outcomes among mothers admitted inlabour ward at Government Rajaji Hospital, Madurai.

1.3 OBJECTIVES OF THE STUDY

- To assess the post test level of selected maternal outcomes among mothers in experimental and control group admitted in labour ward at Government Rajaji Hospital, Madurai.
- To evaluate the effectiveness of breast crawl on selected maternal outcomes among mothers in experimental and control group admitted in labour ward at Government Rajaji Hospital, Madurai.
- To associate post test level of selected maternal outcomes among mothers in experimental group with selected demographic and clinical variables**.**

1.4 HYPOTHESES

- **H_1 -** There is a significant difference in the post test level of selected maternal outcomes among mothers between experimental and control group.
- **H_2 -** There is significant association between the post test level of selected maternal outcomes among mothers in experimental group and selected demographic and clinical variables.

1.5 OPERATIONAL DEFINITION

- **EFFECTIVENESS:** It refers to significant gaining of desired maternal outcomes by the breast crawl using LATCH scale, Numerical visual analogue pain scale and blood drape.
- **BREAST CRAWL:** It refers to the ability of newborn when placed on the mother's chest, the baby makes crawling movements towards mother's breast and finds the areola by itself.
- **SELECTED MATERNAL OUTCOME:** In this study maternal outcome represents that initiation of breast feeding, separation of placenta, amount of blood loss, involution of uterus and pain perception of mothers while episiotomy suturing.
- **MOTHERS:** It refers to the mothers at full term whoadmitted in labour ward and observed on first and second postnatal days.

1.6 ASSUMPTION

- The mothers give full cooperation to this technique.
- Breast crawl technique deoes not give any harm to the baby.

1.7 DELIMITATION

- The study is limited to mothers who are admitted in labour ward at Government Rajaji Hospital, Madurai.
- Data collection period is limited to 6weeks only.

1.8 PROJECTED OUTCOME

The study was expected to yield the outcome that breast crawl technique will help the mohers for early initiation of breast feeding, early separation of placenta, minimizing the blood loss, early involution of uterus and reducing the pain perception level during episiotomy suturing.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Polit.D.F (2003) the task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest**.** It is important for broadening the understanding and insight necessary for the development of broad conceptual frame work keeping this in mind the investigators probed into the variable sources to gain a more in depth understanding from the related studies.

This chapter deals with two parts:

Section -A:Review of literature related to studies.

Section-B: Conceptual frame work on ErnesteinWidenbach'smodel of midwifery Practice.

SECTION-A

The literature has been organized under following sections.

PART-I :Studies related to cultural practice of breast feeding.

PART-II **:**Studies related to maternal outcomes by breastcrawl.

PART-III :Studies on other benefits of breast crawl.

SECTION – A

2.1 STUDIES RELATED TO CULTURAL PRACTICE OF BREAST FEEDING

Indarjit.et.al., (2007)conducted a study on initiation of breast feeding – the cultural factors. The objective of the study was to assess the breast feeding practices among neonates in admitted in Neonatal Intensive Care Unit and to understand the role of health professionals for the promotion of breast feeding among neonates. Data were gathered with the help of semi-structured interview schedule. A group of 50 mothers were interview and the findings revealed that 94% of them were either Hindus or Sikhs and78% of them were below 25 years. Only1/5 the respondents had initiated breast feeding within a few hours after delivery (22%). Colostrum was not given to neonates by 66% of the respondents as it was believed to be impure and causes obstruction in the intestine of the neonates. Thus negative attitude towards colostrum and delay in initiation of breast feeding should be changed by educating mothers. Nurses can play important role as they are in direct contact with mothers of the neonates while taking care of them in the ward.

Lissa.R.C (2006)conducted a descriptive study on Student Nurse's Attitudes and Beliefs about Breast-Feeding. This study explored the breast-feeding attitudes and beliefs of students newly enrolled in an urban university baccalaureate nursing program. A qualitative approach was used to conduct in-depth, semi structured interviews with 12 students prior to their formal course work in maternal–child nursing. Four themes emerged from the data analysis: Personal experiences are important in the development of breast-feeding attitudes and beliefs, The students generally believed that breast-feeding offered benefits for babies and mothers, but the beliefs were stronger for those who grew up with breast-feeding as the norm. The students identified an educational rather than promotional role for nurses in breast-

feeding because of conflicts about personal choice. This study suggests that students need help identifying their attitudes and beliefs about breast-feeding and reflecting how their personal experiences influence breast-feeding promotion.

2.2 STUDIES RELATED TO MATERNAL OUTCOMES BY BREAST CRAWL

WilisDwiPangestiSupriydi (2013-2014) conducted a retrospective cohort study on implementation of early breastfeeding initiation and discussed the psychological effects of maternal and infant in Banyumas. Checklist is used to collect data to complete an interview. Data were analyzed using Chi Square test. The study took 32 maternal and infant samples. The study results were 53.6% are born with the implementation of Early Breastfeeding Initiation. EBI is a skin-to-skin contact only between maternal and infant immediately after birth which can give physical and mental effects to support the success of mother's role adaptation as well as of the initial formation of the concept of self-confidence at the beginning of the baby's life.

Girish M et.al.,(2013) used a prospective single blinded, randomized controlled clinical trial. The aim was to determine the impact of breast crawl on breast feeding and its feasibility and acceptability in a busy labor room. Impact of breast crawl was studied in one group and the outcome was compared with the other group where breast crawl was not performed. Feasibility and acceptability was determined by analysis of questionnaire given to obstetricians and nurses. The result was that the breast crawl had a significant positive impact on the onset of lactation as well as extent of neonatal weight loss on day 3. But the acceptability of breast crawl as a routine in a busy labor room was a major issue.

Jaafar SH, Lee KS and Ho JJ (2012) conducted a randomized or quasi-randomized controlled trial in Cochrane Hospital. The aim was to compare the effect of mother-infant separation versus rooming-in on the duration of breastfeeding. The authors collected 23 reports from 19 potential trials identified. They recommended that exclusive breastfeeding practice had positive association with rooming-in practices.

Demirtas B. (2012) conducted a descriptive and cross-sectional study in Turkey with the aim to identify informational, practical and emotional support that mothers had received from nurses in the early postpartum period. He took 192 mothers for his study. The results of the study stated that the information provided to the mothers should be adequate (41%), given individually (36.3%) and taught through practice (41%). Experiencing a breastfeeding problem, not receiving practical support and the unavailability of nurses were statistically significant predictors of supplementation respectively. He concluded that the Practical support could be enhanced through effective implementation of early maternal/infant skin-to-skin contact in a busy hospital environment.

Moore ER, Anderson GC, Bergman N &Dowswell T. (2012) conducted randomized controlled trials in Cochrane Pregnancy and Childbirth Group's and Neonatal Group's Trials Registers to assess the effects of early SSC on breastfeeding, physiological adaptation, and behaviour in healthy mother-newborn dyads. They compared the early skin-to-skin contact with usual hospital care. In this study, Thirty-four randomized controlled trials were included involving 2177 participants (mother-infant dyads). Data from more than two trials were available for only eight outcome measures. For primary outcomes, they found a statistically significant positive effect of early SSC on breastfeeding at one to four months post-birthand SSC increased

breastfeeding duration but the results did not quite reach statistical significance (P = 0.06). Late preterm infants had better cardio-respiratory stability with early SSC. Blood glucose 75 to 90 minutes following the birth was significantly higher in SSC infants.The intervention appeared to benefit outcomes and cardio-respiratory stability and decrease in infant crying and had no apparent short or long term negative effects.

Emily Prior, ShaliniSanthakumaran, Chris Gale, Lara H Philipps, NeenaModi, and Matthew J Hyde. (2011) conducted a meta-analysis study in China and other parts of South Africa. The objective was to conduct a systematic review and meta-analysis of observational studies to determine whether caesarean delivery is associated with a lower rate of breastfeeding compared with vaginal delivery. They concluded that there is positive association of early initiation of breast feeding and normal vaginal delivery when compared with caesarean delivery. But early skin-to-skin contact helps the both group of mothers to give breast feeding to their babies up to six months.

Abhijit L. Kulkarni, (2010) conducted randomized controlled trial study at J. N. Medical College in Belgaum. 250 healthy term babies delivered by normal vaginal route weighing more than 2.5kgs were included in the study. By a computer generated randomization chart, 125 babies were included in the interventional group and 125 in the control group. The babies were followed up for a period of six months. In the interventional group early skin- to-skin contact intervention is used. In the control group Bedding-in method is used. Promotion of Early initiation of Breastfeeding, bonding, early establishment of lactation, and better physiological stability of exclusive breastfeeding, promotion of growth and prevention of infection are analyzed. The results were 81.6% of babies in the intervention group demonstrated breast crawl. 93.6% babies in the interventional group could initiate Breastfeeding

within one hour compared to 47.2% in the control group ($p<0.001$). The rate of Exclusive Breast Feeding at the end of six months in the interventional group was 72.5% Vs 45.2% in the control group ($p<0.001$). They concluded that early skin-to-skin contact of the baby with the mother promotes early initiation of Breastfeeding and Exclusive Breast Feeding. Early skin-to-skin contact also promoted better physical growth and fewer respiratory infections.

Castilho SD, Barros FilhoAA. (2010) conducted a study to retrace the history of infant nutrition with the objective of better understanding of breastfeeding. They concluded that nowadays, the advantages of breast milk are recognized and exclusive breastfeeding is recommended up to 6 months, to be supplemented with other foods from this age on and continued until at least two years of age. Infant nutrition, whether natural or artificial, has always been determine and conditioned by the social value attributed to breastfeeding.

Sanchez-Molins.M.et.al.,(2010) did a comparative study on the craniofacial growth depending on the type of lactation received. The study of cases and controls (observational, analytical and retrospective) and lateral teleradiographs of the cranium of 197 patients (106 breast fed and 91 bottle fed) were compared. Differences between the two groups were analyzed by applying the T- test and ANOVA. They concluded that in addition to multiple advantages that mother's milk offers to newborns, breastfeeding also helps correct orofacial development.

Widstrom.AM.et.al.,(2010) conducted a study on the new born behavior to lactate the breast when skin-to-skin contact: A possible method for enabling early self regulation. Twenty-eight full term infants were videotaped immediately after birth. A video protocol was developed to examine infant behaviors identified from five random video tapes. They concluded that inborn breast feeding reflexes were

depressed at birth, possibly due to a depressed sensory system. It is hypothesized that when the infant is given the option to peacefully go through the nine behavioral phases birth cry, relaxation, awakening, activity, crawling, resting, familiarization, suckling and sleeping when skin to skin with its mother this results in early optimal self regulation.

P Chaturvedi, (2008) has done a literature review on "breast crawl" to initiate breastfeeding within half an hour after birth. In this review he has mentioned that every newborn when placed on her mother's chest, soon after birth has the ability to find her mother's breast all on her own and to decide when to take her first breast feed. Studies on breast crawl have shown that 70-100% of babies successfully complete the breast crawlto take their first feed immediately after birth.

Hannulal.et.al.,(2008)conducted a systemic review of professional support interventions for breast feeding. The objective of the study was to describe how breast feeding is professionally supported during pregnancy at maternity hospitals and during the postnatal period. Secondly to find out how effective interventions are in supporting breast feeding. Study emphasize that, interventions expanding from pregnancy to the intrapartum period and throughout the postnatal period were more effective than interventions concentrating on a shorter period. In addition intervention package using various methods of education and support from well trained professionals are more effective than intervention concentrating on a single method. He concluded that during pregnancy the effective interventions were interactive, involving mothers in conversations. The Baby Friendly Hospital Initiative as well as practical hands-off teaching, when combined with support and encouragement, was effective approaches. Postnatal effective were home visit, telephone support and breast feeding centers combined with peer support. Relevance to clinical practices

professional need breast feeding education and support of their organizations to act as breast feeding support.

Innes.RJ.et.al.,(2008)conducted a qualitative study on supporting breast feeding mothers. Aim of the study was to report a synthesis of mothers and health care professionals experience and perception of breast feeding support. Result from the 1990 to 2005 search, five themes emerged in health service support of breast feeding the mother health professional relationship skilled help, pressure to time, medicalization of breast feeding and the ward as a public place. The author concluded that the mother tended to rate social support as more important than health service support. Health service support was described unfavorably with emphasis on time pressure, lack of availability of health professionals or guidance, promotion of unhelpful practices and conflictive advice. Changes are required within the health services to address the needs of both the mother and staff.

Anderson GC, Moore E, Hepworth J, & Bergman N (2007) conducted randomized and quasi-randomized clinical trials in Cochrane Hospital. The objective of the study was to assess the effects of early skin-to-skin contact on breastfeeding, behavior and physiology in mothers and their healthy newborn infants. In this study, 806 participants were included. The authors concluded that early skin-to-skin contact had positive outcomes in breastfeeding duration, maintenance of infant temperature in the neutral thermal range, infant crying and scores of maternal affectionate during an observed breastfeeding within the first few days post-birth. They found no statistically significant benefit of skin-to-skin contact for other major clinical variables: breast milk maturation, maternal chest circumference, infant heart rate.

Walters, Mary W. et.al.,(2007) conducted a descriptive study with the purpose to determine whether breast feeding behaviors, skin temperature, and blood

glucose influenced through the use of kangaroo care at the time of birth in healthy full term infants. They took nine full term neonates given kangaroo care beginning within 1 minute of birth and continuing until completion of the first breast feeding by mothers who intended to breastfeed. Infant skin temperature was taken at 1 and 5 minutes after birth and every 15 minutes thereafter. Blood glucose level was taken 60 minutes after birth, the time at which the infant latched onto the breast was recorded and breastfeeding behaviors were observed during the first breastfeeding. The results were the skin temperature rose during birth kangaroo care in eight of the nine infants, and temperature remained within neutral thermal zone for all infants. Blood glucose levels varied between 43 and 85 mg/dL for infants who had not already fed and between 43 and 118 mg/dL for those who had fed. All but one infant spontaneously crawled to and latched onto a breast by 74 minutes after birth. Physicians noted that mothers were distracted from episiotomy or laceration repair discomfort during birth kangaroo care.

Carfoot S, Williamson P, & Dickson R (2005) conducted a randomised controlled trial in Warrington Hospital, Cheshire, UK comparing skin-to-skin contact with routine care. The objective of the study was to examine the effect of early skin-to-skin contact between mothers and their healthy full-term babies on initiation and duration of breast feeding. 204 mother and baby pairs (102 randomised to each group) were participated in this study. The outcome measures were success of first breast feed, maternal satisfaction with skin-to-skin care and preference for future post-delivery care, baby-body temperature 1 hr after birth, partial or exclusive breast feeding at 4 months. The findings of the study were in the skin-to-skin group, 89 out of 98 (91%) babies had a successful first feed compared with 82 out of 89 (83%) in the routine care group. Forty-two out of 97 (43%) babies given skin-to-skin were

partially or exclusively breast feeding at 4 months compared with 40 out of 100 (40%) of babies in the routine care group. The mean temperature 1 hr after birth was higher with skin-to-skin than routine care. The difference in means was 0.15 degrees. The authors concluded that the mothers who had skin-to-skin contact enjoyed the experience, and most reported that they would choose to have skin-to skin care in the future.

Mikiel-Kostyra K, Boltruszko I, Mazur J, Zielenska M. (2005) conducted a prospective cohort study to assess the influence of skin-to-skin contact after birth on breastfeeding was analyzed in a group of 1250 three years old Polish children. The implementation of this practice significantly increased the mean exclusive breastfeeding duration by 0.4 month and overall breastfeeding by 1.4 months. The effect of skin-to-skin contact duration after birth was also observed. The infants kept with the mothers at least 30 minutes were 1.2 month longer exclusively breastfed and 1.7 month later weaned than those who had the shorter contact. The skin-to-skin contact after birth significantly coexisted with the other hospital practices supportive for breastfeeding: early first feeding, exclusive breastfeeding in the maternity ward, rooming-in and elimination of bottle. Multivariate linear regression analysis showed that mother-infant contact afterbirth was a significant and independent factor for exclusive breastfeeding continuation.

Michael Numan.et.al., (2005) noted that if an infant's lips touched her mother's nipple in the first hour of life, the mother kept her infant 100 minutes longer every day than mothers who did not experience suckling until later. It should be noted that when the infant suckles from the breast, there is an outpouring of 19 different gastrointestinal hormones in both the mother and the infant, including insulin, cholesystokinin, and gastrin. The hormonal release is stimulated by the touch of the

mother's nipple by her infant's lips. This increases oxytocin in both the mother's brain and the infant's brain.

Vaidya K, Sharma A, Dhungel S. (2005) conducted a prospective study involving ninety-two lactating mother- infant pairs in the first six months of birth. They were followed-up up to six months for various perinatal factors determining the duration of exclusive breastfeeding. Early postpartum mother-baby skin-to-skin contact had a powerful influence ($P<0.001$) over the duration of exclusive breastfeeding up to 4-6 months and was found to be more significant than early initiation of breastfeeding ($P<0.05$). Mode of delivery did not have any significant effect ($P<0.5$) over the duration of exclusive breastfeeding. Thus health care centers can easily adopt a policy to allow few minutes of early postpartum mother-baby skin-to-skin contact and early initiation of breastfeeding to all vaginal as well as caesarian deliveries to promote breastfeeding.

A study was done by **Mizuno.K.et.al.,(2004)** to prove that mother- infant Skin-to-Skin Contact (SSC) immediately after delivery results in early recognition of own mother's milk odour. In this study 60 healthy full term neonates were randomized into group A with SSC and group B without. Infants' responses to own mother's milk, another mother's milk, formula, orange juice and distilled water were recorded on first and fourth day after birth was statistically analyzed by ANOVA with Fisher's PLSD. Kaplan-Meier analysis with a log rank test was used to compare breast feeding rates between the groups which showed that infants in group A demonstrated larger difference in mouthing movements between their own and another mother's milk odour compared to other group infants.Thus study proved that mother–infant SSC for more than 50 minutes immediately after birth results in

enhanced infant recognition of their own mother's milk odour and longer breast feeding duration.

Sari Goldstein Ferber.et.al.,(2004) conducted a study to evaluate the effect of Kangaroo Care (K C) used shortly after delivery on the neuro behavioural responses of the healthy newborns. Study involved a randomized controlled trial where subjects of 47 healthy mother–infant pairs were given KC immediately after delivery which lasted for one hour. The KC infants slept longer than controlled infants. The study suggested that KC seems to influence state organization and motor system, modulation of the new born infant shortly after delivery.

Carfoot S, Williamson PR and Dickson R (2003) conducted randomized or quasi-randomized controlled trials in Warrington Hospital, Cheshire, UK to examine the effects of early skin-to-skin contact between mother and baby on the initiation and duration of breast feeding. In which skin-to-skin contact between mothers and their healthy full-term newborn babies was compared to routine contact. Primary outcomes were success of first breast feed and duration of breast feeding. Secondary outcomes included, baby temperature and behaviour. Seven randomized controlled trials were identified. Five studies assessed duration of breast feeding with mixed results. The results concluded that the success rate of initiation and duration of breast feeding is increased if the term babies are placed with early skin-to-skin contact.

Hong TM.et.al.,(2003)conducted a descriptive study about first time mother's views of breast feeding support from nurses. Purpose of the study was to gain insights into the perceptions of first-time mothers regarding nurses' support of breastfeeding. Audiotaped interviews were conducted with 20 primiparous breastfeeding mothers within the first month after giving birth vaginally to healthy term infants. Study emphasis that, nurses provided emotional, informational, and tangible support. Non-

supportive behaviors were also identified, including a sense that the nurse was in a hurry, failed to offer breastfeeding assistance, and was inflexible while working with the mother and infant. Clinical implications of the study were nurses can contribute significantly to the successful initiation of and continuation of breastfeeding, and provide new mothers with the confidence and reassurance critical for breastfeeding success.

Mikiel-Kostyra K, Mazur J, Bołtruszko I. (2002) conducted a prospective cohort study to assess influence on breastfeeding of skin-to-skin contact after birth, using a group of 1250 Polish children was investigated with 3 year follow-up. The implementation of the practice significantly increased mean duration of exclusive breastfeeding by 0.39 month and overall breastfeeding duration by 1.43 months. The infants kept with the mothers for at least 20 min were exclusively breastfed for 1.35 months longer and weaned 2.10 months later than those who had no skin-to-skin contact after delivery. The skin-to-skin contact after birth significantly coexisted with the other hospital practices supportive to breastfeeding, especially rooming-in without separation longer than 1 h per 24 h and first breastfeeding within 2 h after birth. Multivariate analysis performed by a general linear model with duration of exclusive breastfeeding as the dependent variable indicated skin-to-skin contact and mother education as two independent variables influencing the duration of exclusive breastfeeding. The results indicated that extensive mother-infant skin-to-skin contact lasting for longer than 20 min after birth increases the duration of exclusive breastfeeding.

Varendi.et.al., (2001)conducted a quasi experimental study on early initiation of breast feeding through breast crawl. A total of 22 babies were observed during the two trials on a warming bed. Around 30-40 minutes after birth, the newborn begins

making mouthing movements, sometimes with lip smacking. Suckling of hands and fingers is commonly seen. After attaching successfully, newborns continued to suckle for 20 minutes. It was concluded that a baby is born with many instinctive abilities which enable her to perform the Breast Crawl. With all these innate programs, the infant seems to come into life carrying a small computer chip with the set of instructions. It appears that young humans, like other baby mammals, know how to find their mother's breast. The Breast Crawl is associated with a variety of sensory, central, motor and neuro-endocrine components, all directly or indirectly helping the baby to move and facilitate her survival in the new world. Babies preferred their mother's unwashed breast to her washed breast, soon after birth. Study emphasis that within the first hour after birth, significantly more babies spontaneously selected a breast treated with amniotic fluid than the alternative untreated breast. This attraction appears to be based on olfactory cues. It was concluded that natural breast odors unsupported by other maternal stimuli are sufficient to attract and guide neonate to the source of odor. The mother's voice is reported to be the most intense acoustic signal measured in the amniotic environment. Given these abilities of the newborn, the Breast Crawl offers the best chance for auditory stimulation with the natural voice of the mother, which the newborn is accustomed to in utero.

Kalus.M.H.et.al.,(2001) conducted an experimental study on initiation of breast feeding through breast crawl immediately after birth. The child was dried and laid on the mother's chest. In the control group a regular behavioral sequence, previously not described in the literature was observed. After 15 mints of comparative is activity, spontaneous sucking and rooting movements accused coaching maximal intensity at 45 mints. The first hand to mother movement was observed at a mean of 34+2 after birth and 55+ minutes the infant spontaneously found the nipple and

stayed to suckle. These finding suggest that an organized feeding behavior develops in a predictable expressed only as spontaneous sucking and rooting movement, soon followed by hand to mouth activity together with were infants sucking and rooting and activity culminating in sucking of the breast had fairly good knowledge regarding breast feeding and its advantages.

Klaus and Kennnel, (2001) conducted a study to assess the factors involving in the involution of uterus**.** It is widely known that oxytocin is released in the mother's blood by the posterior pituitary gland. This oxytocin is infact produced by the hypothalamic neurons and reaches the posterior pituitary gland through their axons. It is responsible for the letdown of milk and contraction of the uterus. The lesser known fact is that de novo oxytocin synthesis occurs in both the infant's and mother's brain when breastfeeding occurs. The stimuli for this release are touch of the mother's nipple by the infant's mouth.

Horwood.L.J.et.al.,(2001) have shown increasing duration of breast milk feeding was associated with significant increase in both verbal IQ and performance IQ. Children Breastfed for 8 months or longer had a mean verbal IQ that were 10.2 points higer and performance IQ score were 6.2 points higher than children who did not receive breast milk.

Christensson.K.et.al., (2000)conducted a study on crying pattern of newborn in different position .The objective of the study was to evaluate differences in crying when infants were cared for by one of three methods during the 90 minutes following birth: Skin to skin contact (Breast Crawl): 90 mints, In a cot next to the mother: 90 mints. In a cot next to the mother for the first 45 minutes and then skin to skin contact (Breast Crawl) for next 45 mints .Results suggested that human infants recognize physical separation from their mothers and start to cry in pulses. The observed cry

may be a human counterpart of the 'separation distress call' which is a general phenomenon among several mammalian species and serves to restore proximity to the mother. The results suggest that in human newborns this cry is not dependent on earlier social experience and may be a genetically coded reaction to separation. Whatever the evolutionary foundations, this cry seems to signal that care in a cot does not satisfy the needs of the newborn human baby. Authors recommend that the most appropriate position of the healthy full term newborn baby after birth is in close body contact with the mother. This was ensured in the study by keeping the babies in the Breast Crawl position.

2.3 STUDIES RELATED TO OTHER BENEFITS OF BREAST CRAWL

Wilis Dwi Pangesti Supriyadi, (2013) conducted a retrospective cohort study with the aim to determine the implementation of early breastfeeding initiation and discussion of the psychological effects of maternal and infant. The population is all birthing mother and her babies, with IMD or not, the total sample of 32 maternal and infant. The study was conducted in October 2013 - January 2014 in Banyumas. Measuring instrument used to collect data is in the form of a checklist as a guide to researchers to complete an interview. Data were analyzed using Chi Square test. The results of the study can be summarized as follows: 53.6% are born with the implementation of Early Breastfeeding Initiation (EBI). EBI is a skin to skin contact only between maternal and infant immediately after birth which can give physical and mental effects to support the success of mother's role adaptation as well as of the initial formation of the concept of self-confidence at the beginning of the baby's life.

Bystrova.K.et.al.,(2009) conducted a comparative study on effects of early contact versus separation on mother-infant interactions, one year later. The study was

conducted on 176 mother-infant pairs who were randomized into four groups. The first group infants were placed skin-to-skin with their mother after birth and had rooming in while in Maternity Ward (MW). Second group infants were dressed and placed in mothers arm after birth and roomed in with their mothers in MW. 3rd group infants were kept in nursery without rooming in both after birth and in MW and fourth group infants were kept in nursery after birth but roomed in with their mother in MW. The mother infant interaction was videotaped according to Parent Child Early Relational Assessment (PCERA) one year after birth which showed that early practice of skin-to-skin contact (SSC) and early suckling had positive effects on PCERA variables. The study concluded that the early SSC for 25 to 120 minutes after birth and early suckling positively influenced in mother infant interaction one year later when compared with routines involving separation.

Ruth Feldman.et.al., (2007) did a study to assess the association between oxytocin level and mother-baby interaction. Although research on the neurobiological foundation of social affiliation has implicated the neuropeptide oxytocin in processes of maternal bonding in mammals, there is little evidence to support such links in humans. Plasma oxytocin and Cortisol of 62 pregnant women were sampled during the first trimester, last trimester and first postpartum month. Oxytocin was assayed during enzyme immunoassay, and free Cortisol was calculated. After the infant were born, their interactions with their mother, and the infant-related thoughts and behavior were observed. Oxytocin was stable across time, and oxytocin levels at early pregnancy and the postpartum period were related to a clearly defined set of maternal bonding behaviors including gaze, vocalizations, positive affect and affectionate touch. Across pregnancy and the postpartum period, oxytocin may play a role in the

emergence of behaviors and mental representations typical of bonding in the human mother**.**

John Kennel and Susan McGrath, (2005) conducted an experimental study to assess the care received by the mother during delivery and its impact in bonding. The author suggested that establishing a bond between a mother and her newborn in essential for the infant to grow and thrive in the mother's care. Hospital staff can promote the creation of this bond by providing continuous support during labour, by placing the newborn skin-to-skin on the mother's chest immediately after delivery until the infant latches on for the first feeding by encouraging continued breast feeding and by keeping mother and infant always together in the first hours and days after delivery. Even in cases where the mother initially rejects her infant, sensitive medical personnel can provide environment which allows the bond between mother and infant to begin.

Klaus and Kennel (2001) conducted a study to evaluate the effect of breast crawl**.** Every newborn, when placed on her mother's abdomen, soon after birth, has the ability to find her mother's breast all on her own and to decide when to take the first breastfeed. This is called the "Breast crawl." It was first described in 1987 at the Karoliuska Institute in Sweden. The breast crawl is associated with a variety of sensory, central, motor and neuroendocrine components. When the baby massages the breast and subsequently suckles, a large oxytocin surge is induced from the mother's pituitary gland into her bloodstream. This oxytocin helps to contract the uterus, expelling the placenta and closing off many blood vessels in the uterus, thus reducing blood loss and preventing anemia.

Piron-Bossuyt C. et.al., (2001) conducted a study to determine the amount of oxytocin release. During suckling, endogenous plasma oxytocin levels were

repeatedly determined by radio immunoassay. They showed rapid fluctuations varying from **10**to **129**muU/ml. This suggests spurt releases of oxytocin of an order of magnitude of **10** to **100**mU.

Uvnas-Moberg.K.et.al., (2000) conducted a study about the role of oxytocin and its impact. They suggested that during breastfeeding or suckling, maternal oxytocin levels is raised by somato sensory stimulation. Oxytocin may, however, also be released by no noxious stimuli such as touch, warm temperature etc., in plasma and in cerebrospinal fluid. Consequently, oxytocin may be involved in physiological and behavioral effects induced by social interaction in a more general context. Positive social interactions have been related to health-promoting effects. Oxytocin released in response to social stimuli may be part of a neuroendocrine substrate which underlies the benefits of positive social experiences. Such processes may in addition explain the health-promoting effects of certain alternative therapies.

SECTION - B

CONCEPTUAL FRAME WORK

Conceptual frame work is a brief explanation of theory or those portions of a theory which are to be tested in a study. It helps to organize the study and provide a context for the interpretation of study results.

The study was based on the concept of breast crawl helps for early initiation of breastfeeding, early separation of placenta, reduces blood loss, reduces after pain perception level and helps for early involution of uterus among mothers admitted at labour ward in Government Rajaji Hospital, Madurai. The investigator adopted a Widenbach's Helping Art of Clinical Nursing prescriptive theory (1964) as the foundation for developing the conceptual framework.

Widenbach's theory is made up of three factors as follows

Widenbach's prescriptive theory has three components or concepts, the central purpose which the practitioner recognizes as essential to the practice of discipline, prescription for the fulfillment of central purpose and the realities the immediate situation that influence the fulfillment of central purpose. All these factors are interrelated concepts.

- The central purpose
- Prescription
- Realities

CENTRAL PURPOSE

The nurse's central purpose defines that quality of health she desires to effect and she recognizes to be her special responsibility in caring for the patient. In this study the central purpose is to assess the effectiveness of breast crawl on selected maternal outcomes like early initiation of breastfeeding, early separation of placenta, minimum blood loss, and early involution of uterus and decreased after pain perception level among mothers admitted in labour ward, Government Rajaji Hospital.

PRESCRIPTION

It refers to plan of care for a patient. Once the nurse identified needs of the patient, she develops a prescription or plan of care. In this study, the investigator planned to provide breast crawl for the experimental group.

REALITIES

Realities refer to physical, psychological, emotional and spiritual factors that affect the nursing action.

The realities are:

- Agent
- Recipient
- Goal
- Framework

THE CONCEPTUAL FRAMEWORK OF THIS NURSING THEORY CONSISTS OF FOLLOWING STEPS

1) Identification of the patients need for help
2) Ministration of the help needed
3) Validation that the action taken was helpful to patient

1. Identification

This step involves determining the need for help. In this study the investigator identifies the delayed initiation of breastfeeding and other related outcomes.

2. Ministration

This step involves provision of required help for the identified need. In this study the investigator ministering to the mothers admitted in labour ward.

MINISTRATION HAD THE TWO COMPONENTS

a) Prescription

The nurse provides care to the mothers. Breast crawl technique was performed to the mothers in experimental group. Breast crawl technique was not performed to the control group. The experimental group was informed about the breast crawl technique in the early phase of labour and got consent from the mothers. Soon after delivery the baby was assessed for the Apgar score. If the baby cried well and took its first breath successfully, the baby was placed on the mother's chest after cleaning and drying the baby expect the hands. No oronasal suction was applied to the baby. Blood loss was observed by using draft while delivery. The placenta separation was noted and the baby was observed for latching the nipple. The pain score during episiotomy suturing and after pain perception level was assessed by using visual analogue scale. Fundal height also measured soon after delivery, one hour after delivery, first

postnatal day and second postnatal day. In the control group, blood loss, placenta separation time, pain score during episiotomy and after pain perception level, involution of uterus, and initiation of breast feeding time were observed.

b) Realities

Agent: It means who is the practicing nurse. In this study the researcher is the agent.

Recipient: The patients are the recipients of the nurse's action. In this study the mothers admitted in labour ward for delivery were the recipients.

Goal: The goal is the desired outcome the nurse wishes to achieve. In this study the goal is to initiate the breast feeding, reduce the blood loss, reduce placenta separation time, reduce pain perception level during episiotomy suturing and after pain period, and make the uterus to contract or in volute quickly among mothers admitted in labour ward.

Framework: Framework consists of human, environmental, professional and organization facilities. In this study the framework was labour ward, Government Rajaji Hospital.

3. Validation

After help has been ministered the nurse validates that the actions were indeed helpful. Here the investigator validates by means of post test assessment of initiation of breastfeeding, measurement of blood loss, separation of placenta, measuring the pain perception level by using visual analogue scale and measuring the involution of uterus during delivery and first and second postnatal day.

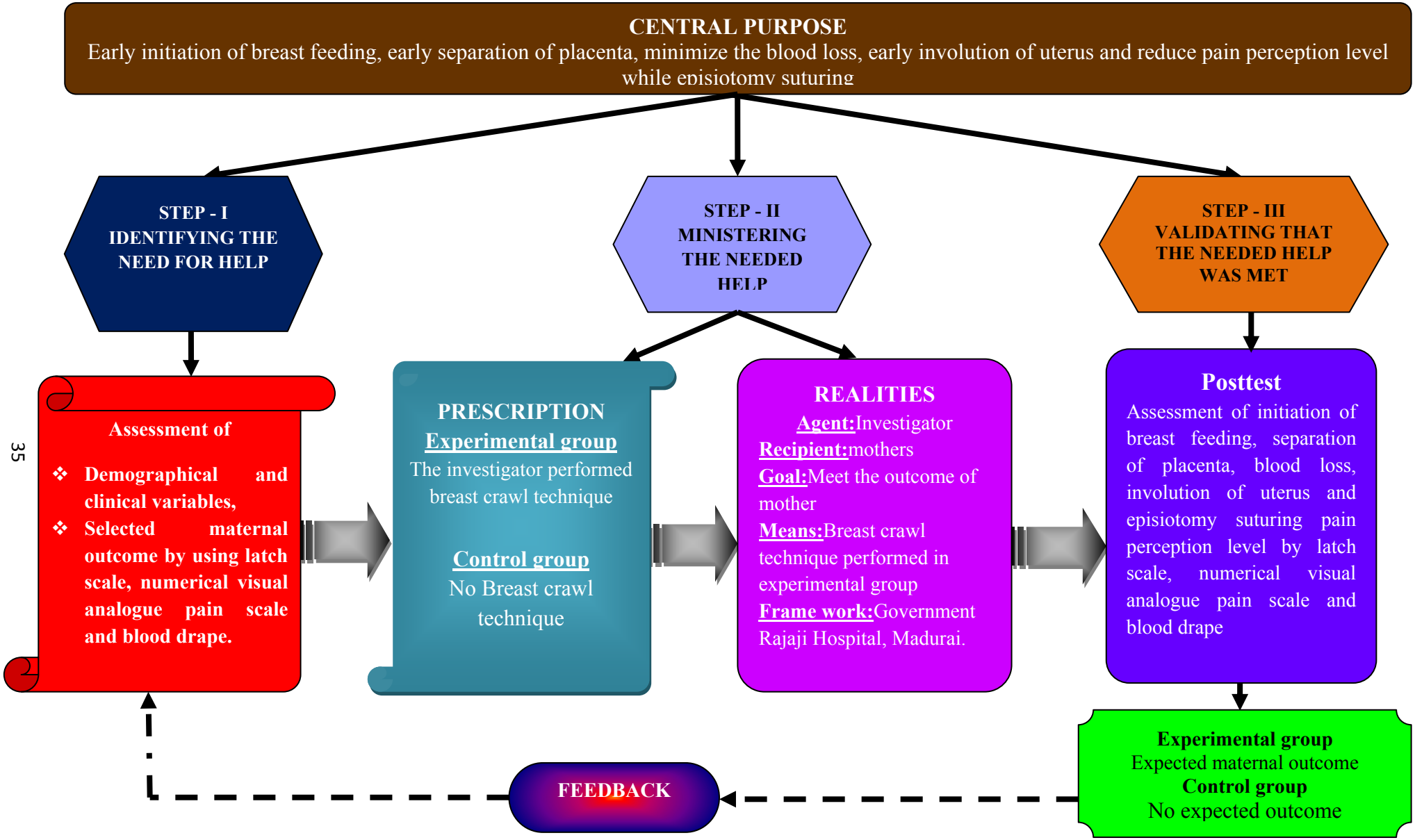


Fig.1 MODIFIED ERNESTINE WIEDENBACH'S MODEL OF MIDWIFERY PRACTICE

METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is an overall plan to conduct research study, which involves the description of research approach, study setting, sampling size, sampling technique, tool, method of data collection and data analysis.

This chapter describes the methodology followed to assess the effectiveness of breast crawl on selected maternal outcomes. It includes research approach, research design, and variables, setting of the study, population, inclusion criteria, sampling, development and description of tool, validity and reliability of tool, method of data collection and plan for data analysis.

3.1 RESEARCH APPROACH

Quantitative research approach was used in this study to assess the effectiveness of breast crawl on selected maternal outcomes among mothers admitted in labour ward.

3.2 RESEARCH DESIGN

Research design is a blue print that the researchers select to carry out their research study. The research design used in this study was True Experimental – Post test only design. A true experimental design involves Manipulation, Control and Randomization.

	GROUP	INTERVENTION	POST TEST
R	Experimental Group	X	O_1
	Control Group	-	O_1

R – Randomization.

X – Intervention for experimental group.

O_1 – Post test for both experimental and control group.

3.3 RESERACH VARIABLES

Attributes or characteristics that can have more than one value are known as variables.

VARIABLES IN THIS STUDY

- **INDEPENDENT VARIABLE:** Breast crawl technique
- **DEPENDENT VARIABLES:** Selected maternal outcomes like initiation of breast feeding, separation of placenta, amount of blood loss, involution of uterus and pain perception level while episiotomy repair.
- **DEMOGRAPHIC VARIABLES:** In this study demographic variables are age, education, occupation, marital status, religion and type of family
- **CLINICAL VARIABLES:** In this study clinical variables are time of first stage of labour, time of second stage of labour, parity, sex of the baby and weight of the baby.

3.4 SETTING OF THE STUDY

The setting of the study was selected on the basis of feasibility for conducting the study, availability of samples and proximity of setting of the study. The study was conducted inlabour ward at Government Rajaji Hospital, Madurai.

3.5 POPULATION

The entire set of individuals (or objects) having some common characteristics.

-Polit

Target population

The target population in this study was the mothers who delivered normally at full term.

Accessible population

All the mothers admitted and delivered normally at full term in labour ward at Government Rajaji Hospital, Madurai.

3.6 SAMPLE

A sample is the representative unit of a target population.

The sample of the present study was mothers who delivered at full terminlabour ward at Government Rajaji Hospital, Madurai who fulfilled the inclusion criteria.

3.7SAMPLE SIZE

The total sample size of the study was 60 mothers. The sample is divided into experimental group (30) and control group (30).

3.8 CRITERIA FOR SAMPLE SELECTION

The samples were selected by the following inclusion and exclusion criteria.

Inclusion criteria

1) Participants who delivered full term neonates by normal vaginal delivery with episiotomy.
2) Mothers and newborn without complications
3) Mother who are able to communicate in Tamil and English.
4) Newborns who have apgar score 7 and above.

Exclusion criteria

1) Mothers with complicated medical or surgical disorders.
2) Mothers who delivered by forceps, ventouse, caesarean section, etc.
3) Mothers who are not willing for breast crawl.
4) Newborn with high risk condition like birth asphyxia,intra uterine growth reatardation, low birth weight, etc.

3.9 SAMPLING TECHNIQUE

Sampling refers to the process of selecting a portion of the population which refers the entire population. The subjects were selected by probability - simple random sampling technique by using Flip the coin method.

3.10 METHOD OF SAMPLE SELECTION

The sample were selected those who met the inclusion criteria. Simple random sampling technique – Flipthe coinmethod was used. By the use of flip the coin method,head was considered as control group and tail was considered as experimental group.

3.11 RESEARCH TOOL AND TECHNIQUE

The tool was developed and standardized from extensive review of literature and discussion with the experts in the field. The tool consists of two sections.

Section A – Socio Demographic and Clinical variables of the client.

Section B – Clinical observation checklist, latch scale, numerical visual analogue pain scale and blood drape.

3.12 DESCRIPTION OF THE TOOL

The tool consists of two sections.

SECTION A: consists of socio demographic variables and clinical variables such as age of the mother, education, occupation, marital status, religion, type of family, parity, time of first stage of labour, time of second stage of labour, sex of the baby and weight of the baby.

SECTION B: An observation check list is used to collect the data from the mothers. It included the following questionnaires to assess the effectiveness of breast crawl like

- Initiation of breast feeding
- Time of separation of placenta
- Amount of blood loss
- Involution of uterus and
- Pain assessment scale (VAS)
- Latch Scale

SCORING PROCEDURE

SECTION A: No scoring was allotted for thedemographic variables.

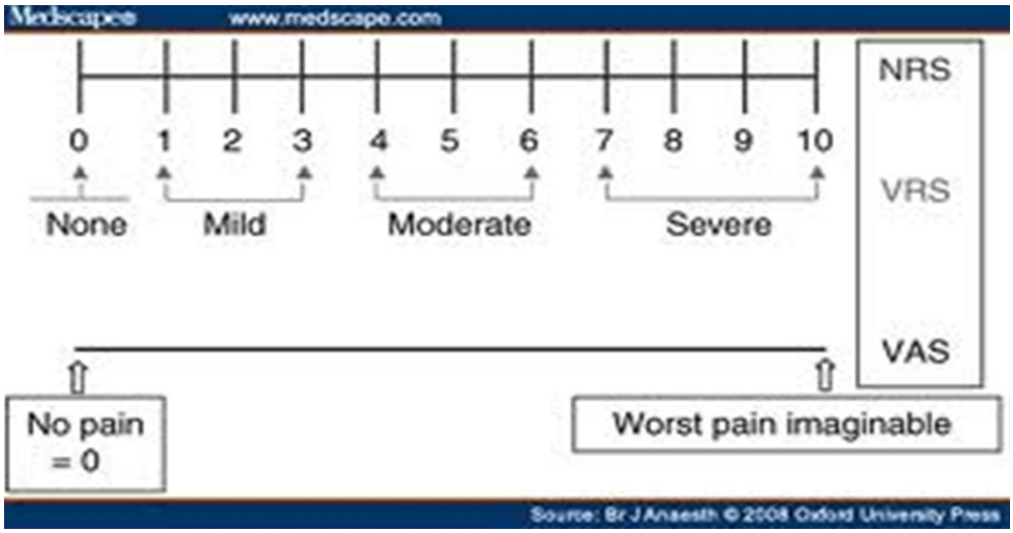
SECTION B: If the observation checklist fulfils the criteria (like separation of placenta within 30 minutes, amount of blood loss during delivery is less than 500ml, and the blood loss is <200ml during first and second postnatal day, involution of uterus per day is 1.5cms and above), it will be considered as "Normal" and the level is categorised as excellent, very good, good and fair.

LATCH SCALE

	0	1	2
L - Latch	• Too sleepy or reluctant • No Latch achieved	• Repeated attempts • Hold nipple in mouth • Stimulate to suck	• Grasps breast • Tongue down • Lips flanged • Rhythmic sucking
A- Audible Swallowing	• None	• A few with stimulation	• Spontaneous and intermittent <24 hours old • Spontaneous and intermittent >24 hours old
T-Type of Nipple	• Inverted	• Flat	• Everted (after stimulation)
C-Comfort	• Engorged • Cracked, bleeding, large blisters or bruises • Severe discomfort	• Filling • Reddened/small blisters or bruises • Mild/moderate discomfort	• Soft • Tender
H-Hold (positioning)	• Baby requires wrapping • Pillow required for support • Mother learning skills	• Minimal support required • Mother gaining confidence	• No assist from staff • Mother able to position/hold infant • Mother and baby relaxed • Mother competent

Initiation of breast feeding will be assessed by using Jenson D, Wallace S and Kelsay P "LATCH scale". Scores will be obtained from the mother's information. Add the score obtained from each row in LATCH. If the score is 0, means no initiation of breast feeding. If baby scores less than 7 for a feed, this is an indicator for further evaluation and/or development of a breastfeeding management plan.

It also includes visual analogue numerical pain scale. Scores of pain level is obtained from the mother's information.



SCORING METHOD

LEVEL OF PAIN	SCORES
No Pain	0
Mild Pain	1 – 3
Moderate Pain	4 – 6
Severe Pain	7 – 10

3.13 TESTING OF THE TOOL

Validity

The content validity of the tool was obtained by giving the tool to 3 of the nursing experts in the field of Obstetrics and Gynaecological Nursing, HOD and Professor of Obstetrics and Gynaecological Department, Professor of Obstetrics and Gynaecology and Statistian. Experts' suggestions were incorporated in the tool.

Reliability

Reliability of the tool was established by test – retest method. The reliability of the numerical pain scale and LATCH scale was also established by test – retest method and correlation coefficient value was 0.82. Hence the tool was considered highly reliable to proceed the main study.

3.14 PILOT STUDY

A formal permission was obtained from the HOD in Obstetrics and Gynaecology and HOD in Paediatrics.Research proposal was approved by the Institutional Ethical Committee Prior to the pilot study. The pilot study was conducted at labour ward in Government Rajaji Hospital, Madurai from 01.08.14 to 07.08.14.

An oral and written consent of each study samples was obtained from the samples. The mothers were explained about the purpose of the study and assured of confidentiality of the data collected.

First the mothers were screened for any complications in their antenatal period. Then 10 mothers are selected (5 mothers in control group and 5 mothers in experimental group). Breast crawl technique was performed to experimental group.

The researcher assessed the initiation of breast feeding, time of separation of placenta, amount of blood loss, involution of uterus and also assessed the pain perception level while episiotomy suturing. Routine hospital procedure was performed to the control group. Similarly the control group also assessed for the time of initiation of breast feeding, time of separation of placenta, blood loss during delivery, first postnatal day and second postnatal day, involution of uterus and pain perception level on episiotomy suturing.

The results were revealed that the outcome was good in experimental group when they were compared with the control group. Hence the result of this study suggested that the study was feasible and practicable to conduct the main study.

3.15 DATA COLLECTION PROCEDURE

Permission was obtained from Head of the Department in Obstetrics and Gynaecology and Head of the Department of Paediatrics of the institution. The main study was conducted from 08.08.14 – 15.09.14. The data was collected at labour ward in Government Rajaji Hospital, Madurai.

The objectives of the study were explained to the mothers who were present on that day, before starting the data collection to get cooperation during the breast crawl technique. The mothers were explained about the purpose of the study and were assured of confidentiality of the data collected and were assured that the newborn's health will not be affected.

The mothers were screened for any complications in their antenatal period. 60 mothers were selected using simple randomization by flip the coin method. They were assigned into experimental and control group and each group had 30 mothers. Then the mothers were divided into 10 groups. Every 4^{th}day 6 samples were

collected (3 were from each group). During delivery time, the mothers and their babies were assessed for any complications. Breast crawl technique was performed to the experimental group and the control group was observed with the routine hospital procedure.

Time of separation of placenta, time of initiation of breast feeding (by using latch scale), height of the uterus, episiotomy suturing pain perception level (by using numerical visual analogue pain scale) and amount of blood loss during delivery time (by using blood trape sheet and weighing the pads) were assessed among both groups. Then the amount of blood loss and height of the uterus in first and second postnatal day was measured to assess the effectiveness of breast crawl in both experimental group and control group. Then the results were analysed and compared with each other.

DATA COLLECTION PROCEDURE SCHEDULE

- Study participants were assigned into ten groups.
- Each group consists of six participants, three participants in experimental group samples and three in control group samples.
- So totally 60 samples were included in study schedule.
- For each group intervention was given to three days.

DATA COLLECTION PROCEDURE																															
FROM 12TH AUGUST 2014 TO 15TH SEPTEMBER 2014																															
Date																															
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	
Group -1																															**DATA ANALYSIS**
Group-2																															
Group -3																															
Group -4																															
Group -5																															
Group -6																															
Group -7																															
Group -8																															
Group -9																															
Group - 10																															

KEY NOTES

	INTERVENTION
	INTERVENTION THEN POST TEST

3.16 PLAN FOR DATA ANALYSIS

Analysis and interpretation of data is the most important phase of research process, which involves the computation of certain measures along with searching for patterns of relationship that exist among data groups. Data were analyzed and interpreted in accordance with objectives.

Data analysis is the process of organizing and synthesizing the data so as to answer the research questions and test hypothesis.

- Suresh. K. Sharma

Data were analysed using descriptive and inferential statistics. In this study, frequency and percentage distribution, mean, standard deviation, chi square test and unpaired "t" test were used.

DESCRIPTIVE STATISTICS

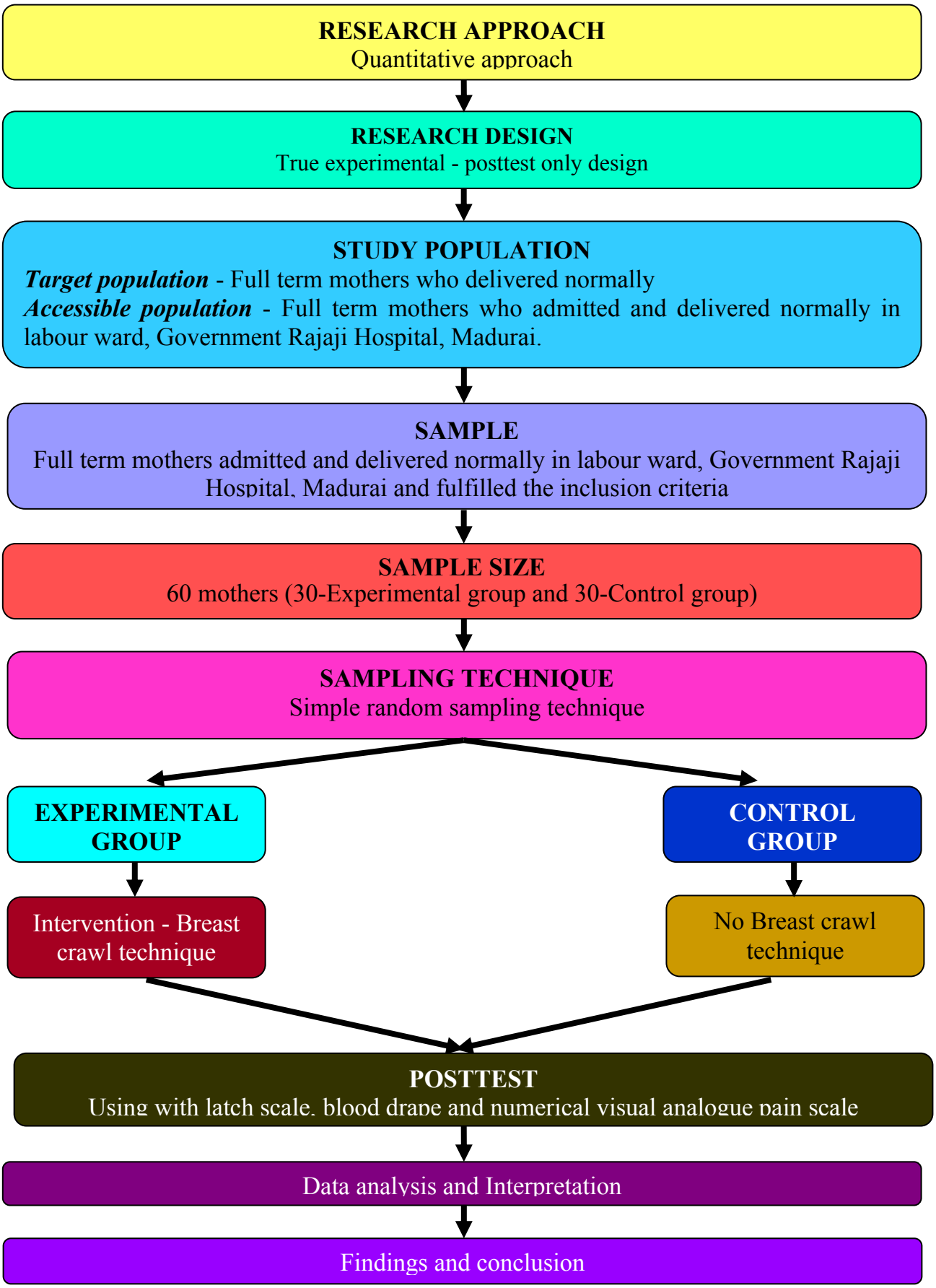
1. Descriptive statistics is used to organize and summarize the data to draw the meaningful interpretation.
2. Mean and standard deviation were used to analyze the effectiveness of breast crawl among mothers in experimental and control group.

INFERENTIAL STATISTICS

1. Unpaired "t" test was used to analyze the effectiveness of breast crawl on selected maternal outcomes between the mothers in experimental and control group.
2. Chi-square test was used to find the association between the selected maternal outcomes like initiation of breast feeding, separation of placenta, amount of blood loss, involution of uterus and pain perception level while episiotomy suturing and demographic variables in experimental group.

3.17 PROTECTION OF HUMAN RIGHTS

Research proposal was approved by the dissertation committee of College of Nursing, Madurai Medical College, Madurai in order to protect the human rights. Formal permission was obtained from the Head of Department in Obstetrics and Gynecology and the Head of Department in Pediatrics. An oral and written consent of each study samples was obtained before starting the data collection. The advantages of the study were explained to the samples. Assurance was given to the subjects that confidentiality would be maintained throughout the study and the breast crawl technique would not give any harm to the baby.



3.18 SCHEMATIC REPRESENTATION OF THE STUDY

DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected and thereby to assess the "Effectiveness of breast crawl on selected maternal outcomes among mothers admitted at labour ward, Government Rajaji Hospital, Madurai." Analysis and interpretation of data is the important step in research process. It involves the computation of the certain measures along with searching for patterns of relationship that exists among the data groups.

Analysis is the process of organizing and synthesizing the data so as to answer the research questions and test the hypothesis.

- **Suresh. K. Sharma**

This chapter deals with analysis and interpretation of data collected from 60 intranatal mothers. The data have been analyzed and presented on the basis of the objectives of the study.

PRESENTATION OF DATA

The study findings of the sample are presented in the following sections.

SECTION A: Distribution of demographic variables and clinical variables of intra natal mothers.

SECTION B: Description of maternal outcomes of intra natal mothers.

SECTION C: Comparison of the maternal outcomes of the breast crawl between experimentalandcontrol group.

SECTION D: Association of scores of selected maternal outcome with selected demographic variables and clinicalvariables.

SECTION - A

TABLE1 :DISTRIBUTION OF MOTHERS ACCORDING TO THEIR SOCIO DEMOGRAPHIC VARIABLES AND CLINICAL VARIABLES

(n=60)

Demographic and clinical variables	Control group		Experimental group	
	f	%	f	%
1. AGE OF THE MOTHER				
a) <18 yrs	-	-	-	-
b) 18-24 yrs	18	60	19	63.3
c) 25-29 yrs	11	36.7	10	33.3
d) >30 yrs	1	3.3	1	3.3
2. EDUCATIONAL STATUS				
a) Primary education	9	30	2	6.7
b) Higher secondary	20	66.7	23	76.7
c) Degree	1	3.3	4	13.3
d) Illiterate	-	-	1	3.3
3. Occupation				
a) Government employee	-	-	-	-
b) Private employee	-	-	1	3.3
c) House wife	30	100	29	96.7
d) Cooly	-	-	-	-
4. MARITAL STATUS				
a) Married	30	100	30	100
b) Unmarried	-	-	-	-
c) Separated/Divorced	-	-	-	-
d) Widow	-	-	-	-
5. RELIGION				
a) Hindu	29	96.7	28	93.3
b) Christian	-	-	-	-
c) Muslim	1	3.3	2	6.7
d) Others	-	-	-	-

Demographic and clinical variables	Control group		Experimental group	
	f	%	f	%
6. TYPE OF FAMILY				
a) Nuclear family	11	36.7	9	30
b) Joint family	19	63.3	21	70
c) Extended family	-	-	-	-
CLINICAL VARIABLES				
7.PARITY				
a) First	20	66.7	18	60
b) Second	8	26.7	9	30
c) Third	2	6.6	1	3.3
d) More than three	-	-	2	6.7
8. DURATION OF 1st STAGE OF LABOUR				
a) 4-6 hours	-	-	8	26.7
b) 6-8 hours	8	26.7	3	10
c) 8-12 hours	21	70	19	63.3
d) >12 hours	1	3.3	-	-
9.DURATION OF 2nd STAGE OF LABOUR				
a) 1\2 -1 hours	28	93.3	28	93.3
b) 1-11/2 hours	2	6.7	2	6.7
c) 11/2-2 hours	-	-	-	-
d) >2 hours	-	-	-	-
10. BABY GENDER				
a) Male	13	43.3	13	43.3
b) Female	17	56.7	17	56.7
11. WEIGHT OF THE BABY				
a) 2000-2500gms	3	10	2	6.7
b) 2500-3000gms	24	80	24	80
c) 3000-3500gms	3	10	4	13.3
d) >3500gms	-	-	-	-

The above table represents that the age limit of the mothers between 18-24 yrs in control group was 60% whereas in the experimental group it was 63.3%. 36.7% mothers were in the age group of 25-29 yrs in control group but in the experimental group it was 33.3%. In the age group of above 30 yrs, the value of both experimental and control group was same that was 3.3%.

With the view of educational status, in the experimental group, 6.7% women have finished their primary education, 76.7% of mothers have finished their higher secondary and 13.3% of mothers finished degree course. Whereas the percentage of mothers have completed their primary education was 30%, 66.7% of mothers finished their higher secondary education and 3.3% of mothers have completed degree course in the control group. But the percentage of illiterate mothers in experimental group was 3.3%.

In the view of occupation, the majority of mothers were housewives in both experimental and control group. Only one woman was working in private company in the experimental group.

With regard to marital status, all women have got married. No one was single or separated or widow.

In the aspect of religion, the majority of mothers belongs to Hindu in both experimental and control group which was 93.3% and 96.7% respectively. Only 3.3% of Muslims were in the control group which was slightly increased to 6.7% in experimental group.

30% of mothers were belongs to nuclear family in the experimental group but 36.7% in control group. But 70% of mothers were from joint family in experimental group and 63.3% in control group. From this view, majority of mothers were living in joint family.

In the control group, 26.7% of mothers had 6-8 hours, 70% had 8-12 hours, and 3.3% mother had more than 12 hours in the duration of first stage of labour. But in the experimental group, 26.7% of mothers had 4-6 hours, 10% of mothers had 6-8 hours and 63.3% of mothers had 8-12 hours in the duration of first stage of labour.

In the duration of second stage of labour, 93.3% of mothers had half to one hour and 6.7% of mothers had 1-1 ½ hours in the control group and which was 93.3% of mothers in ½ -1 hour and 6.7% of mothers in 1-1 ½ hours in the experimental group.

In parity category, 66.7% mothers had first delivery, 26.7% mothers had second delivery and 6.6% mothers had third delivery in the control group. Whereas in the experimental group, 60% of mothers had first delivery, 30% of mothers had second delivery and 3.3% of mothers had third delivery. But 6.7% of mothers had more than three babies in experimental group though none of the mother had more than three babies in the control group.

In the view of baby gender, the both experimental and control group had equal range. Male babies were 43.3% and female babies were 56.7% in both experimental and control group.

Babies weighing 2-2 ½ kgs was 10% in control group but the percentage was 6.7% in experimental group. 2 ½ -3kgs weighing babies were same that was 80% in both groups. More than 3kgs weighing babies were 10% in the control group and 13.3% in the experimental group.

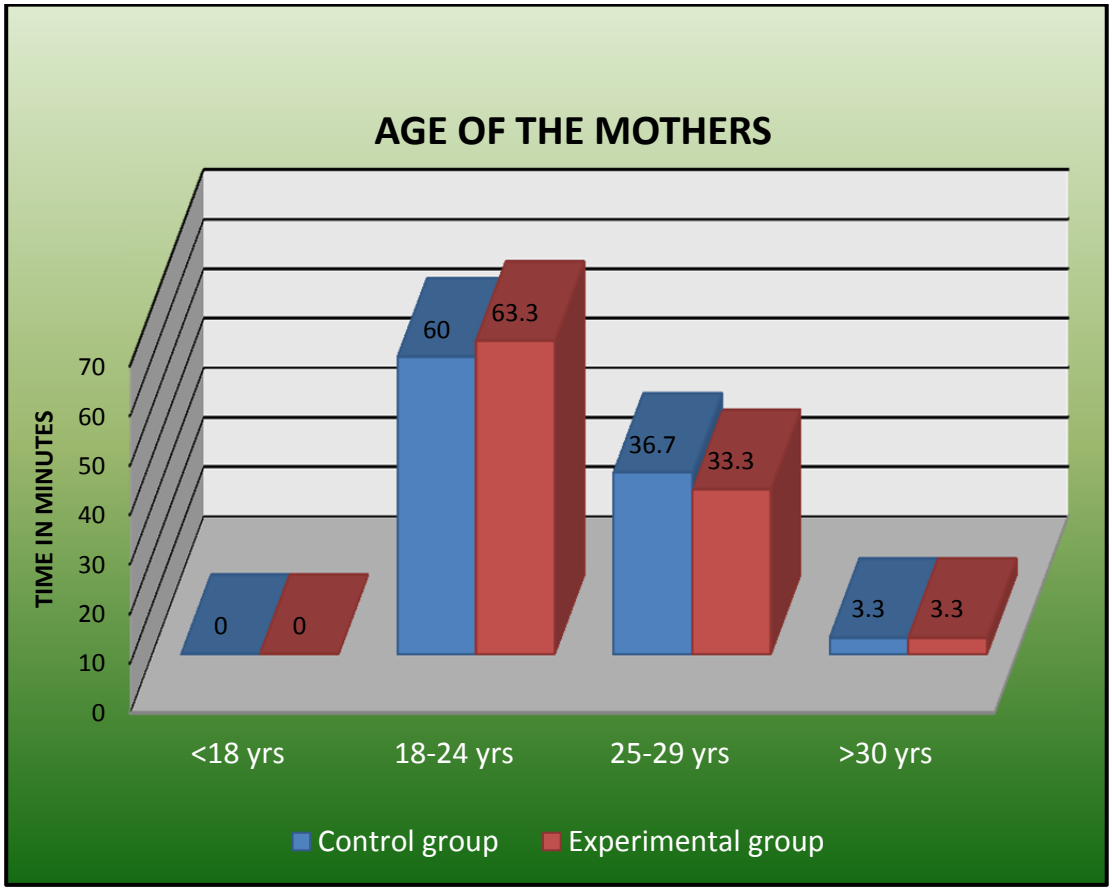


Fig.3 : Multiple bar diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their age.

Majority of the mothers in both experimental and control group from the category of 18-24 years and the percentage was 60% and 63.3% respectively.

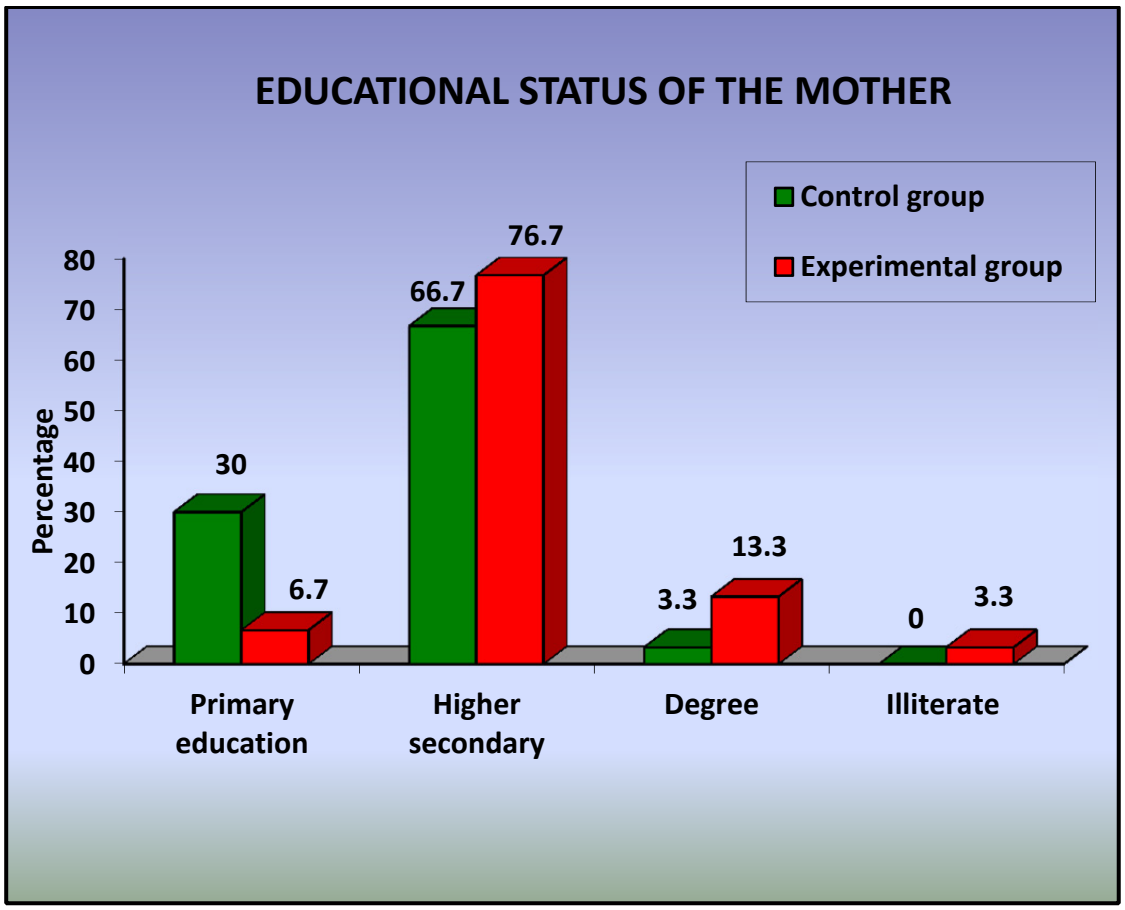


Fig.4: Multiple bar diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their educational status.

The above figure depicts that the highest percentage of mothers both in experimental and control group have completed higher secondary education which was 76.7% and 66.7% respectively.

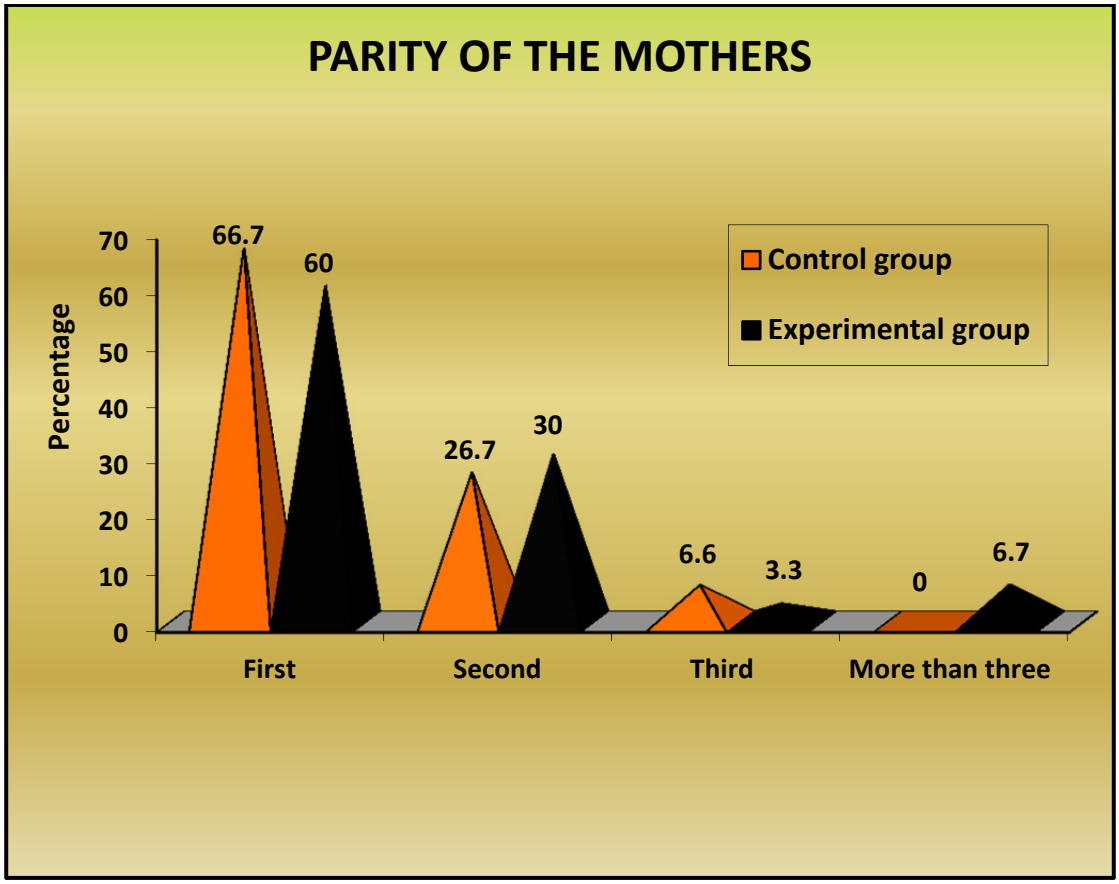


Fig.5: Multiple pyramid diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their parity.

The above diagram reveals that the percentage of mothers who had their first delivery in control and experimental groups was 66.7% and 60% respectively.

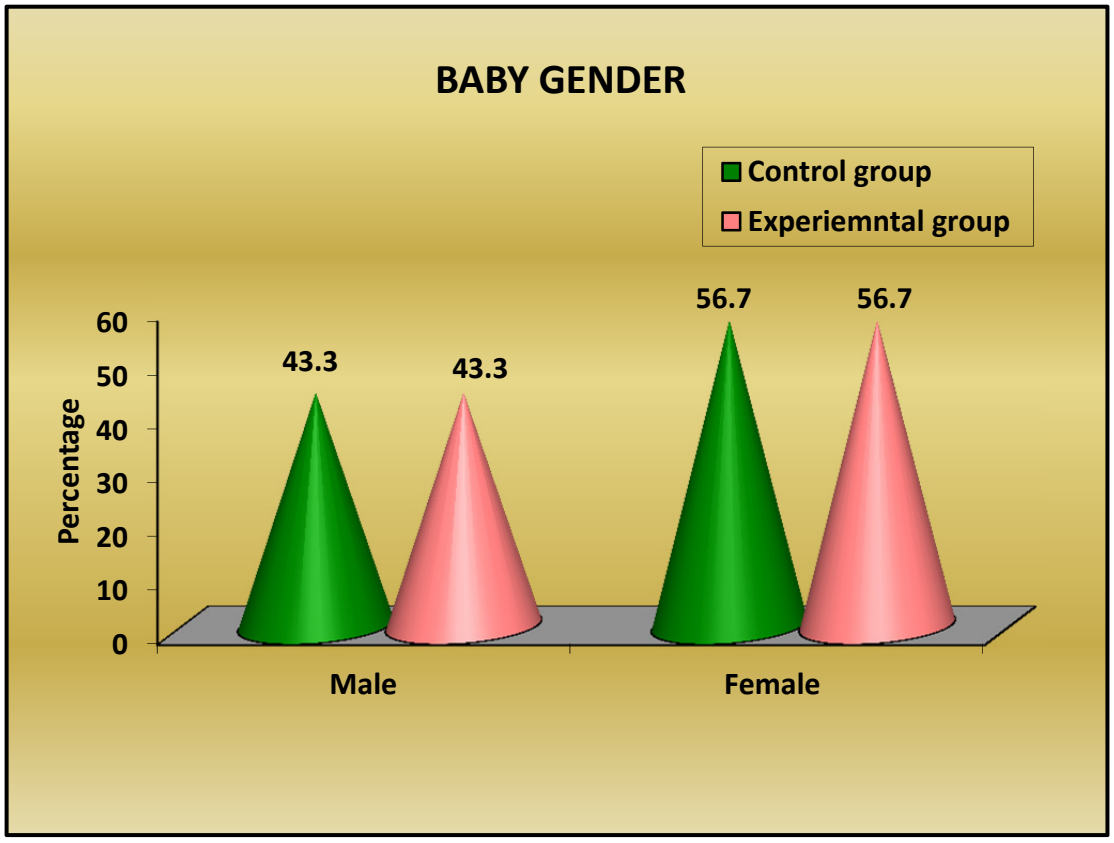


Fig.6: Multiple cone diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their baby gender.

The above diagram shows that the equal percentage of mothers had male babies that was 43.3% both in control and experimental groups. Same like that the mothers had equal percentage of female babies that was 56.7% both in experimental and control group.

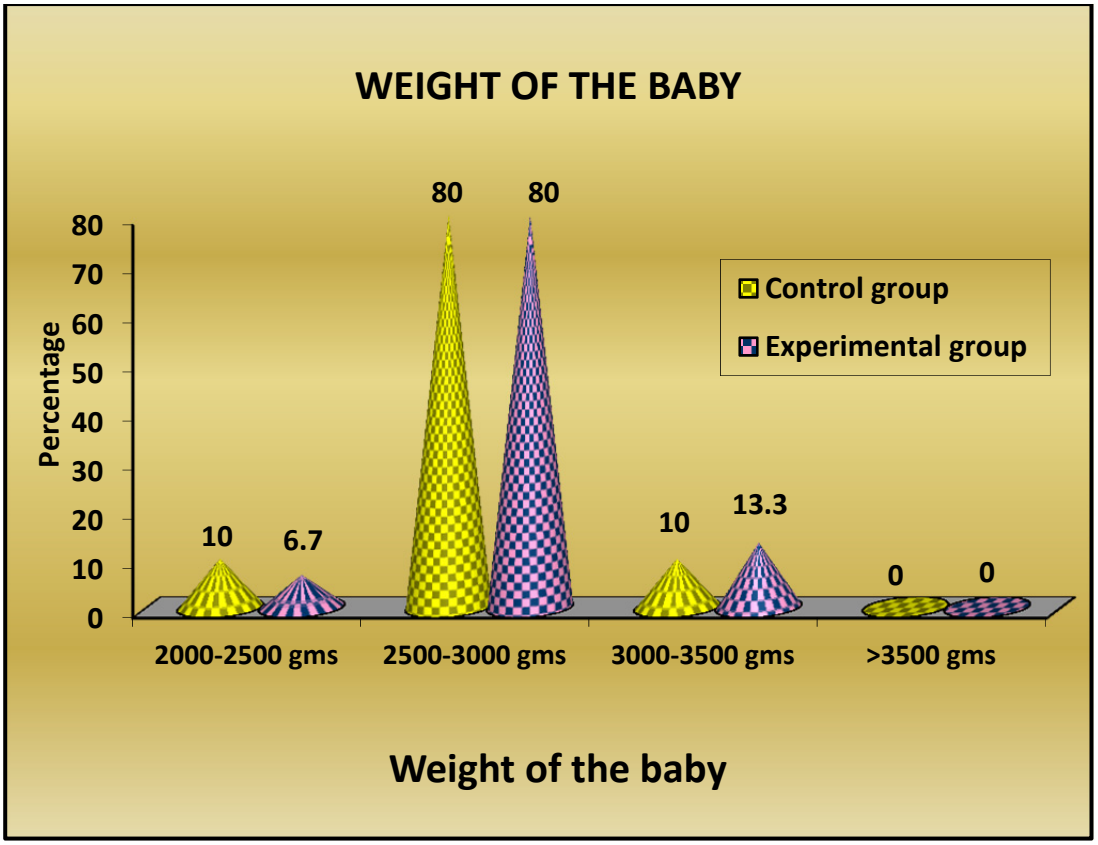


Fig.7: Multiple conediagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their weight of the baby.

The above diagram depicts that the most of the mothers had 2 ½ -3kgs weighing babies that was in equal percentage (80%) in both control and experimental group.

SECTION - B

TABLE 2 :FREQUENCY AND PERCENTAGE DISTRIBUTION OF OUTCOMES OF MOTHERS IN EXPERIMENTAL AND CONTROL GROUP

(n= 60)

Clinical ObserVations	Control group		Experimental group	
	f	%	f	%
1. TIME OF SEPARATION OF PLACENTA				
a) 0-10 minutes	7	23.3	26	86.7
b) 10-20 minutes	22	73.3	4	13.3
c) 20-30 minutes	1	3.3	-	-
d) >30 minutes	-	-	-	-
2. TIME OF INITIATION OF BREAST FEEDING				
a) 10-30 minutes	1	3.3	5	16.7
b) 30-50 minutes	1	3.3	25	83.3
c) 50-70 minutes	28	93.3	-	-
d) 70-90 minutes	-		-	-
3. BLOOD LOSS OBSERVED DURING LABOUR				
a) 100-200ml	7	23.3	23	76.7
b) 200-300ml	22	73.3	7	23.3
c) 300-400ml	1	3.3	-	-
d) 400-500ml	0	0	-	-
4. BLOOD LOSS OBSERVED PER POST NATAL DAY				
a) <200ml	7	23.3	27	90
b) 200-250ml	23	76.7	3	10
c) 250-300ml	-	-	-	-
d) 300-350ml	-	-	-	-

Clinical Observations	Control group		Experimental group	
	f	%	f	%
6. HEIGHT OF UTERUS AFTER 1 HOUR OF DELIVERY				
a) Just above the level of umbilicus	30	100	30	100
b) At the level of umbilicus	-	-	-	-
c) Below the umbilicus	-	-	-	-
d) In between the umbilicus and symphysis pubis	-	-	-	-
7.HEIGHT OF UTERUS ON THE FIRST POSTNATAL DAY				
a) 2cms below the umbilicus	-	-	28	93.3
b) 1.5cms below the umbilicus	19	63.3	2	6.7
c) 1 cm below the umbilicus	10	33.3	-	-
d) Same like the previous day	1	3.3	-	-
8. HEIGHT OF UTERUS ON THE SECOND POSTNATAL DAY				
a) 4cms below the umbilicus	-	-	29	96.7
b) 3cms below the umbilicus	18	60	1	3.3
c) 2cm below the umbilicus	12	40	-	-
d) Same like the previous day	-	-	-	-
9. PAIN PERCEPTION DURING EPISIOTOMY SUTURING				
a) No pain	-	-	3	10
b) Mild	-	-	7	23.3
c) Moderate	14	46.7	19	63.3
d) Severe	16	53.3	1	3.3

In the above table, the time of separation of placenta within 10 minutes was 86.7% in the experimental group and within 20 minutes it was 13.3%. In the control group the time within 10 minutes was 23.3%, within 20 minutes was 73.3% and within 30 minutes was 3.3%.

The percentage of mothers in the time of initiation of breast feeding within 10-30minutes was 16.7% and within 30-50 minutes was 83.3% in the experimental group. Whereas in the control group, the mothers percentage was 3.3% in both 10-30 minutes and 30-50 minutes category. The mothers were 93.3% in 50-70 minutes category.

The experimental group mothers' blood loss during delivery was 100-200ml and the percentage of mothers was 76.7% and the percentage was 23.3% in200-300ml category. The amount of blood loss was more in control group and the percentage was 23.3% in 100-200ml category, 7.3% in 200-300ml category and 3.3% in 300-400ml category.

The amount of blood loss in every post natal day was less than 200ml and the percentage of mothers was 90% and the percentage was 10% in 200-300ml category in experimental group. The blood loss was more in control group and the percentage was 76.7% in 200-300ml category and the mothers' percentage was 23.3% in100-200ml category.

The height of uterus and the percentage of mothers are equal in both groups soon after delivery and after an hour of delivery. The height of the uterus per post natal day was more than 2cms in experimental group and the percentage was 93.3%. In the control group the height of uterus was slowly goes down and the involution rate was 1-1.5 cms per day.

Pain perception was more in control group and the percentage was 53.3% in severe pain category. And the mothers' percentage was 46.7% in moderate pain category. In the experimental group, the pain perception was slightly decreased from severe to moderate. The percentage was 63.3% in moderate pain and it was 23.3% in mild pain category. But in the experimental group, 10% of mothers did not perceive pain during episiotomy suturing.

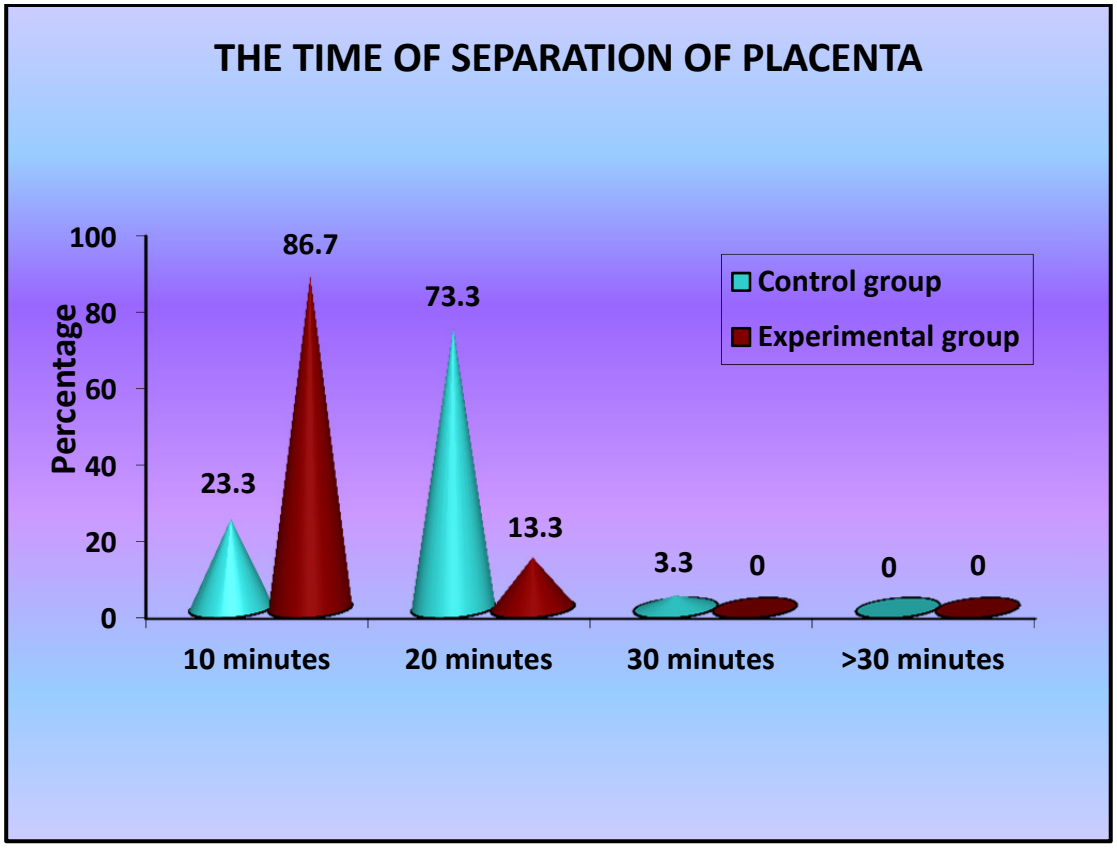


Fig.8 :Multiple cone diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their time of separation of placenta.

The above diagram depicts that the majority of the mothers had placenta separation with in 10 minutes and the percentage was 23.3% and 86.7% in both control and experimental group respectively.

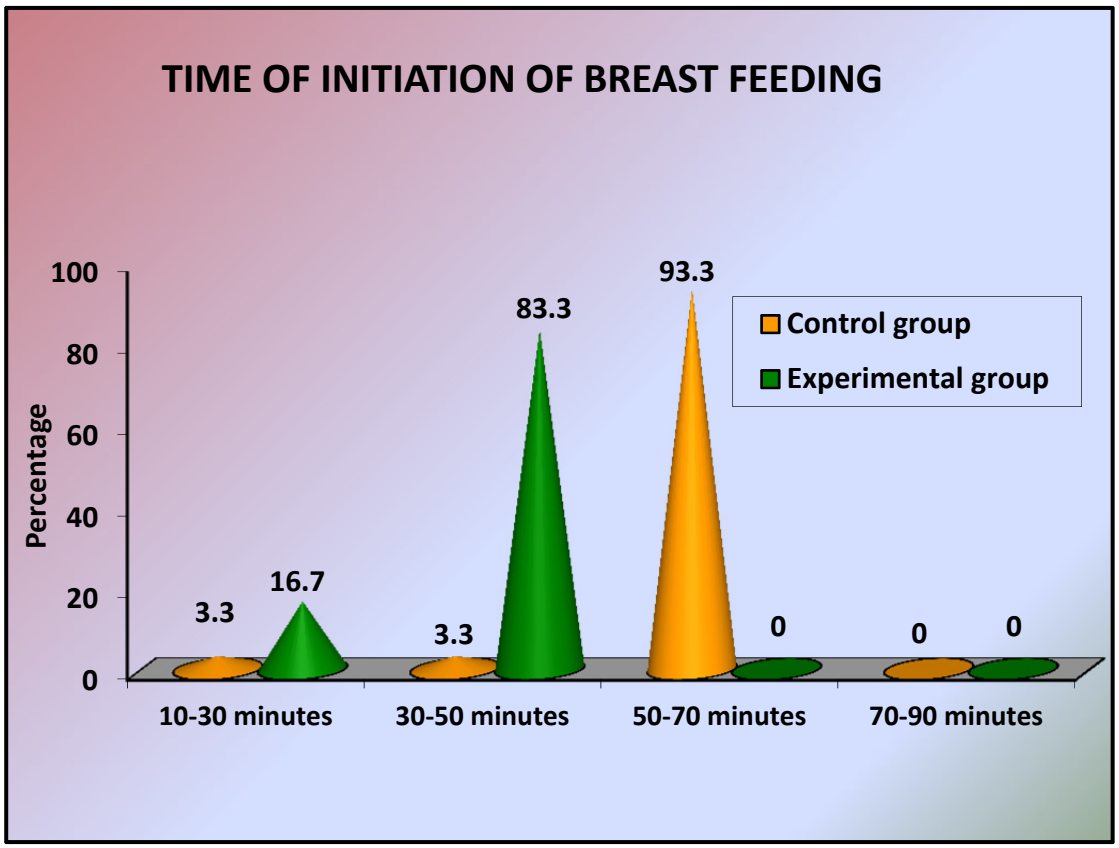


Fig.9: Multiple cone diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their time of initiation of breast feeding.

The above diagram represents that the time of initiation of breast feeding was 50-70 minutes in the control group and the percentage of mothers was 93.3%. The time of initiation of breast feeding in the experimental group was 30-50 minutes and the percentage was 83.3%.

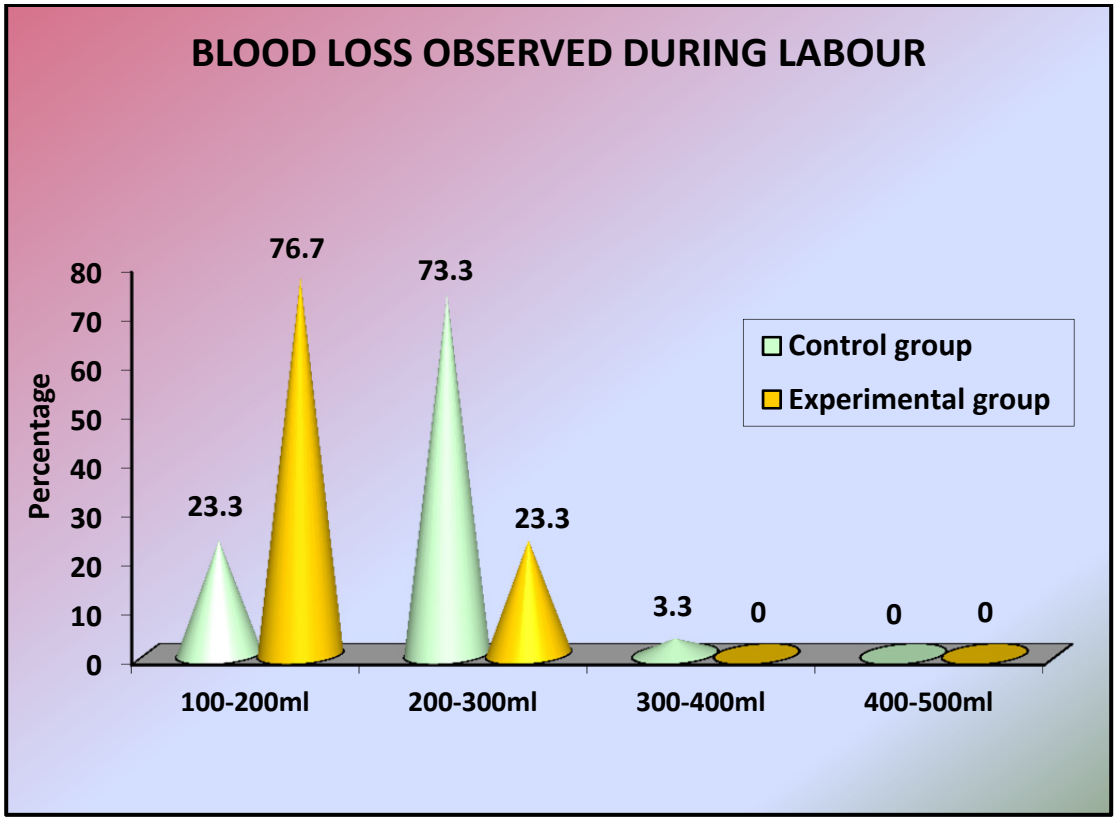


Fig.10: Multiple cone diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their blood loss observed during labour.

Majority of the mothers in the experiemental group (76.7%) lost 100-200ml of blood during delivery.But in the control group, the amount was 200-300ml and percentage of mothers was 73.3%.

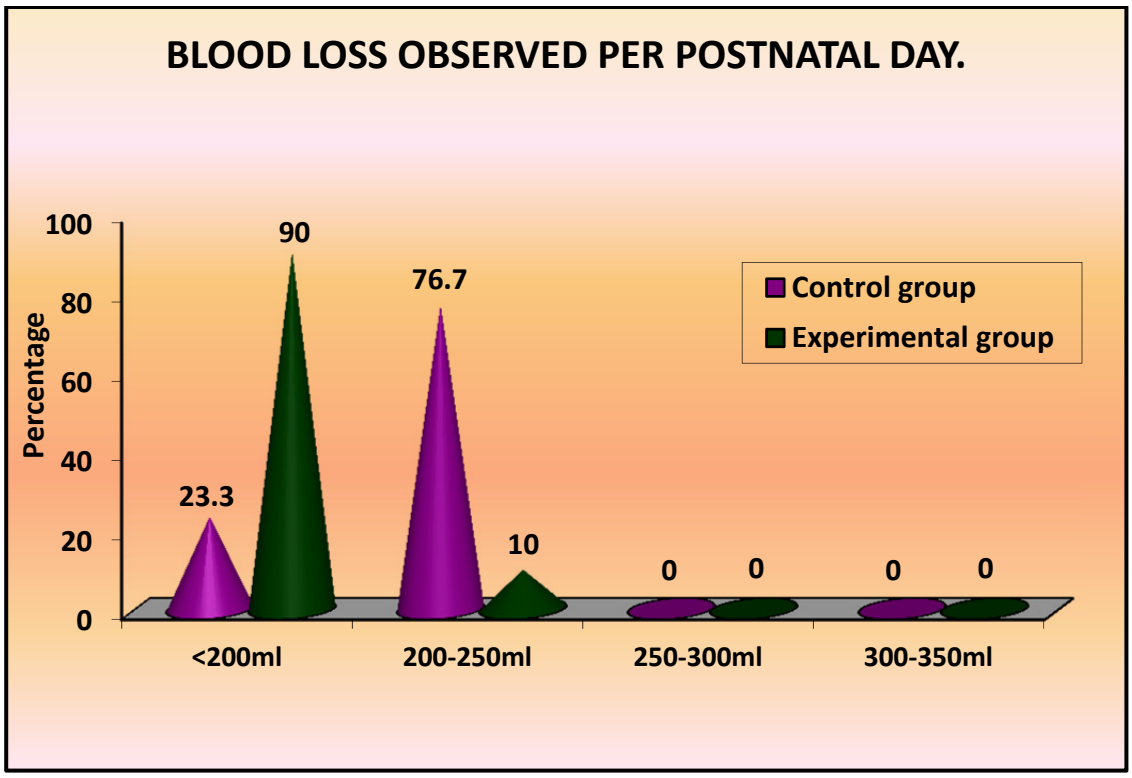


Fig.11: Multiple cone diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their blood loss obsedved per post natal day.

The above diagram represents that the blood loss per post natal day was less than 200ml in the experimental group whereas the amount of blood loss was 200-250ml in control group.

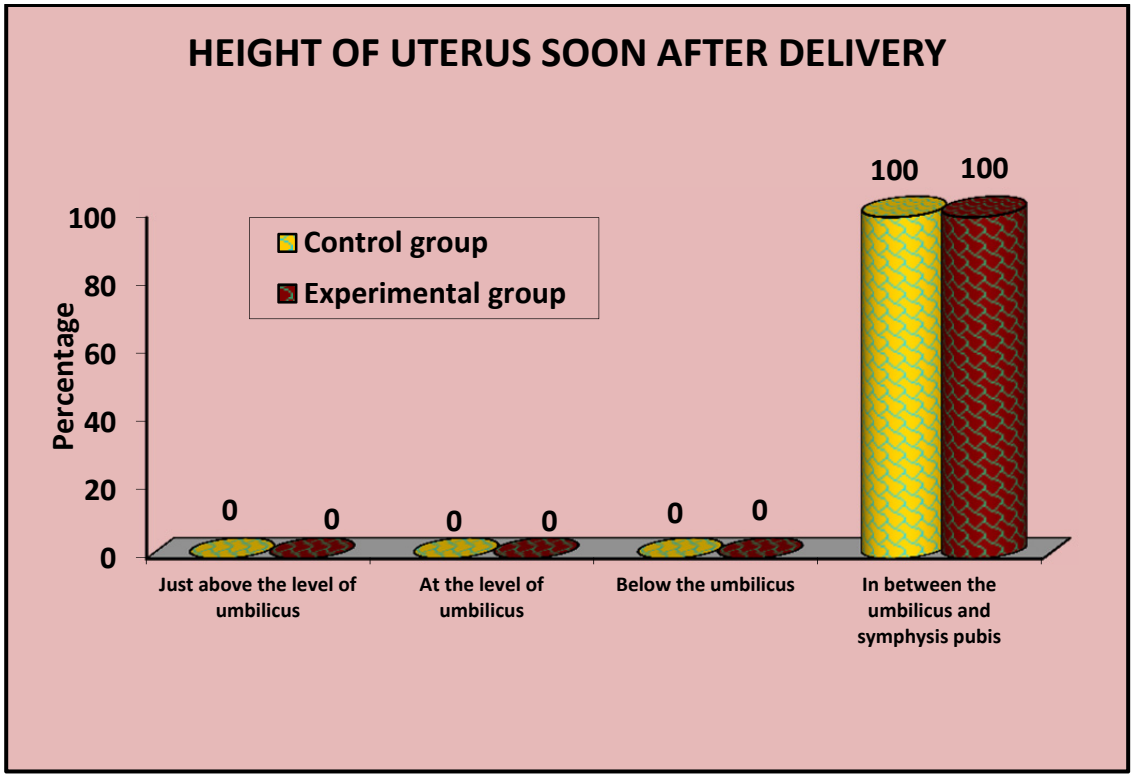


Fig.12: Multiple cylinder diagram showing percentagedistribution of breast crawl on selected maternal outcomes among mothers according to their height of uterus soon after delivery.

The height of the uterus in both groups was same and the percentage was 100%.

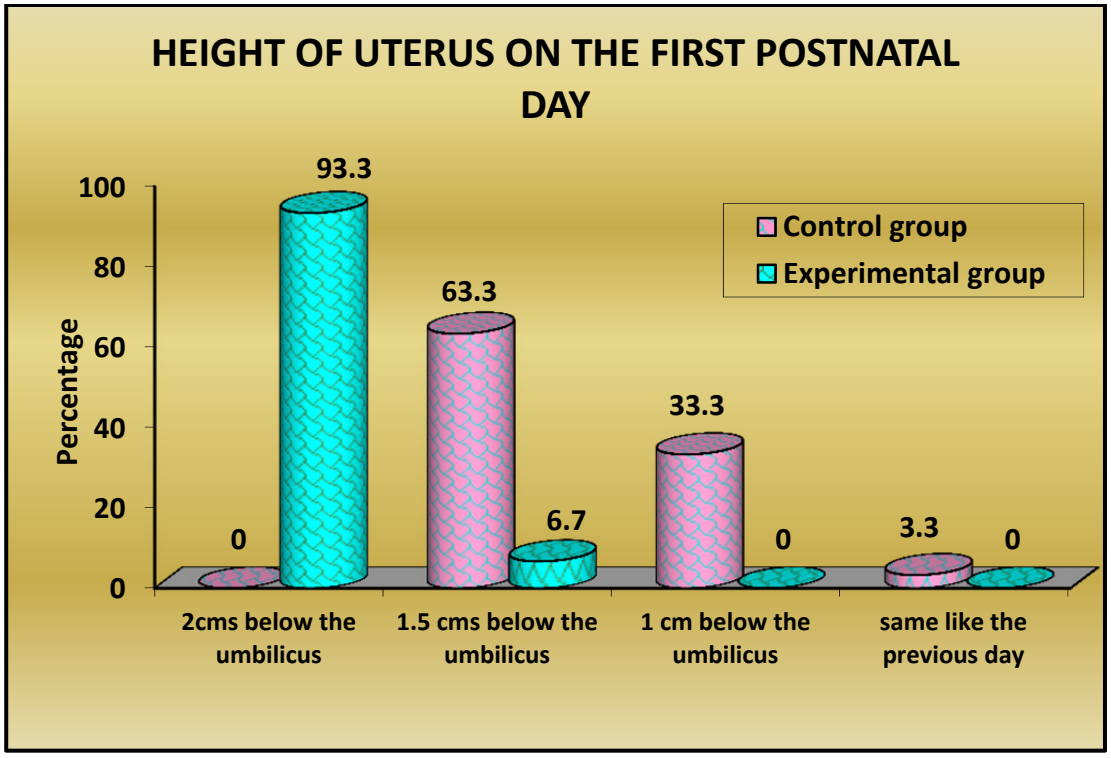


Fig.13. Multiple cylinder diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their height of uterus on the 1st postnatal day.

The above diagram depicts that the height of uterus in the first postnatal day was 2cms and the percentage was 93.3% in the experimental group.In the control group the height of uterus was 1cm and the percentage was 33.3%.

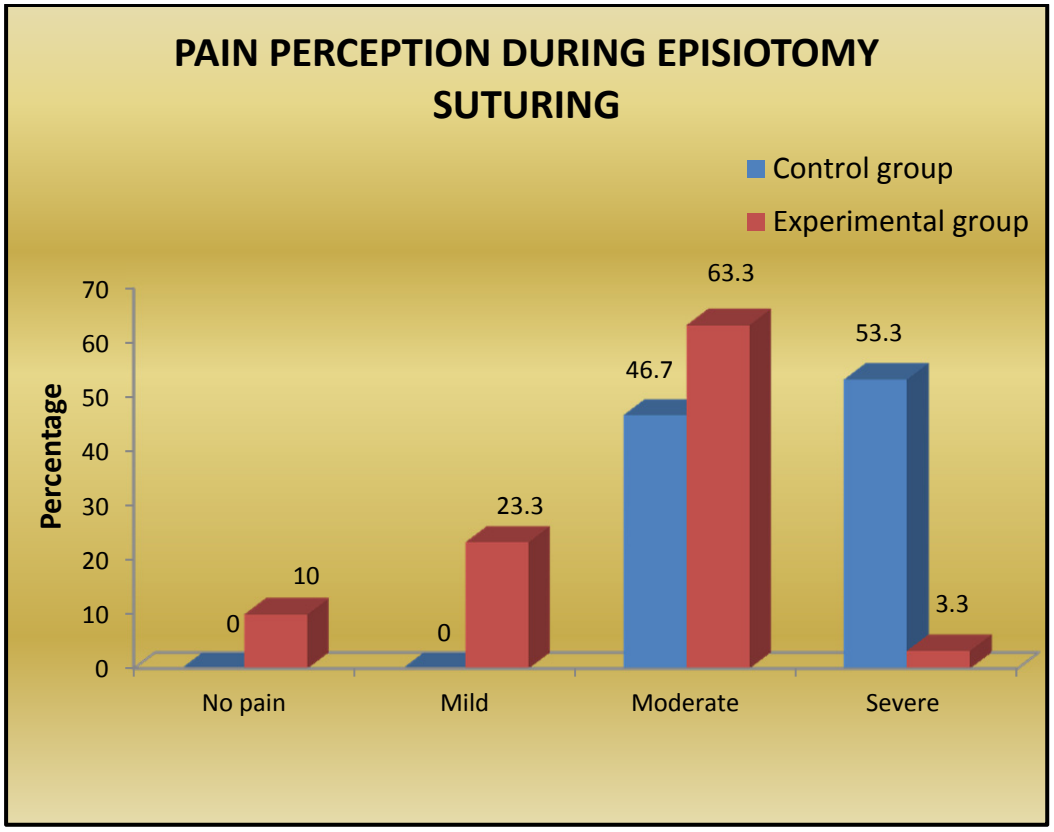


Fig.14: Multiple bar diagram showing percentage distribution of breast crawl on selected maternal outcomes among mothers according to their pain perception during episiotomy suturing.

The above diagram represents that the majority of the women (53.3%) in the control group perceived severe pain while episotomy suturing whereas the percentage of experimental group was 3.3%.

SECTION– C

COMPARISON OF SELECTED MATERNAL OUTCOMES BETWEEN EXPERIMENAL AND CONTROL GROUP

TABLE 3 :UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN THE TIME OF INITIATION OF BREAST FEEDING BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Time of initiation of breast feeding	Control Group		Experimental Group		Mean Difference	't'-value	p-value
	Mean	SD	Mean	SD			
	59.47	8.72	41.57	2.93	17.90	10.66	**P=0.000 Significant at P<0.001**

The above table represents that overall mean score, "t" value and "p" value. The overall mean score in experimental group is 41.57 and the standard deviation is 2.93. The overall mean score in control group is 59.47 and standard deviation is 8.72. The "t"value is 10.66 at $p<0.001$ significant level. Hence it concludes that the time of initiation of breast feeding is shorter in duration when compared with routine hospital procedure. The average time of initiation of breast feeding by breast crawl technique is 41 minutes. So the breast crawl technique is very effective in the initiation of breast feeding.

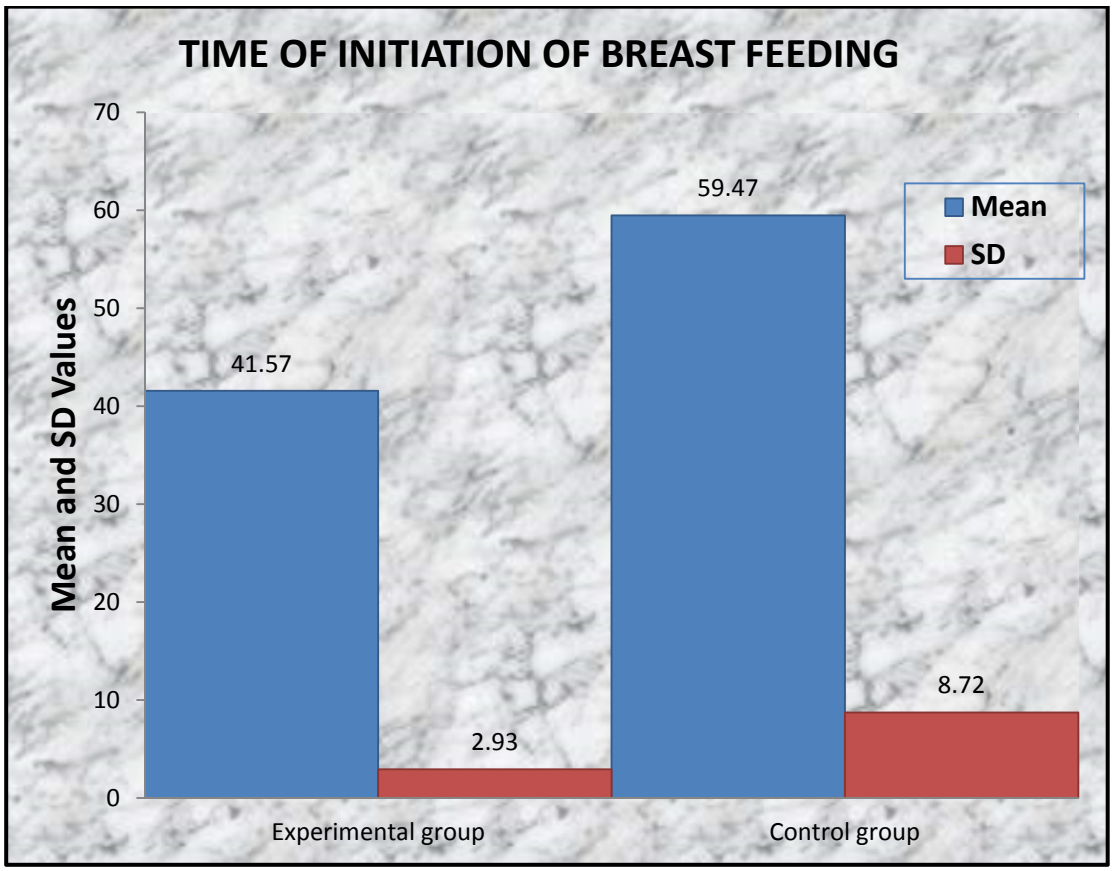


Fig.15 : Distribution of mean and standard deviation of time of initiation of breast feeding between experimental and control group.

The above figure represents that the mean value of experimental group was 41.57 and standard deviation was 2.93. In the control group the mean value was 59.47 and standard deviation was 8.72.

TABLE4 :UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN THE PAIN PERCEPTION LEVEL WHILE EPISIOTOMY SUTURING BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Episiotomysuturing Pain perception	Control group		Experimental group		Mean difference	't'-value	p-value
	Mean	SD	Mean	SD			
	6.77	1.22	4.33	1.92	2.43	5.86	**P=0.000 Significant at P<0.001**

The above table illustrates the overall mean score, "t"value and "p" value. The overall mean score in experimental group is 4.33 and standard deviation is 1.92. The overall mean score in control group is 6.77 and standard deviation is 1.22. The "t"value is 5.86 at p<0.001 significant level. Hence it concludes that the experimental group perceives lower level of pain perception when it compared with control group. Thus the breast crawl technique is very effective in the reduction of pain perception level while episiotomy suturing.

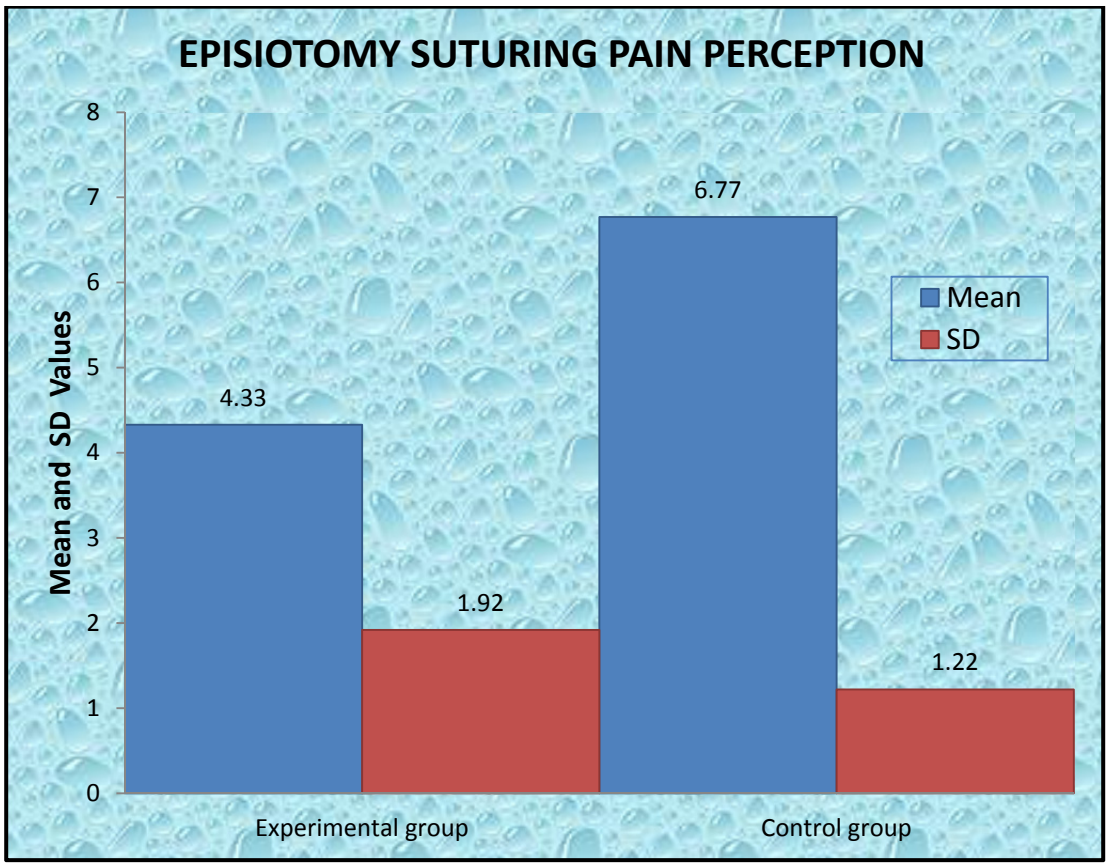


Fig.16 : Distribution of mean and standard deviation of episiotomy suturing pain perception between experimental and control group.

The above diagram says that the mean value of experimental group was 4.33 and standard deviation was 1.92 and mean value of control group was 6.77 and standard deviation was 1.22.

TABLE5 :UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN THE TIME OF SEPARATION OF PLACENTA BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Time of separation of placenta	Control group		Experimental group		Mean difference	't'-value	P-value
	Mean	SD	Mean	SD			
	12.27	2.61	9.03	1.43	3.24	6.0	**Significant at P<0.001**

The above table illustrates the overall mean score, "t"value and "p" value. The overall mean score in control group was 12.27 and standard deviation was 2.61. The overall mean score in experimental group was 9.03 and standard deviation was 1.43. The "t"value is 6.0 at $p<0.001$ significant level. Hence it concludes that the experimental group has shorter time in placenta separation. Thus the breast crawl technique is very effective in reducing the time of placenta separation.

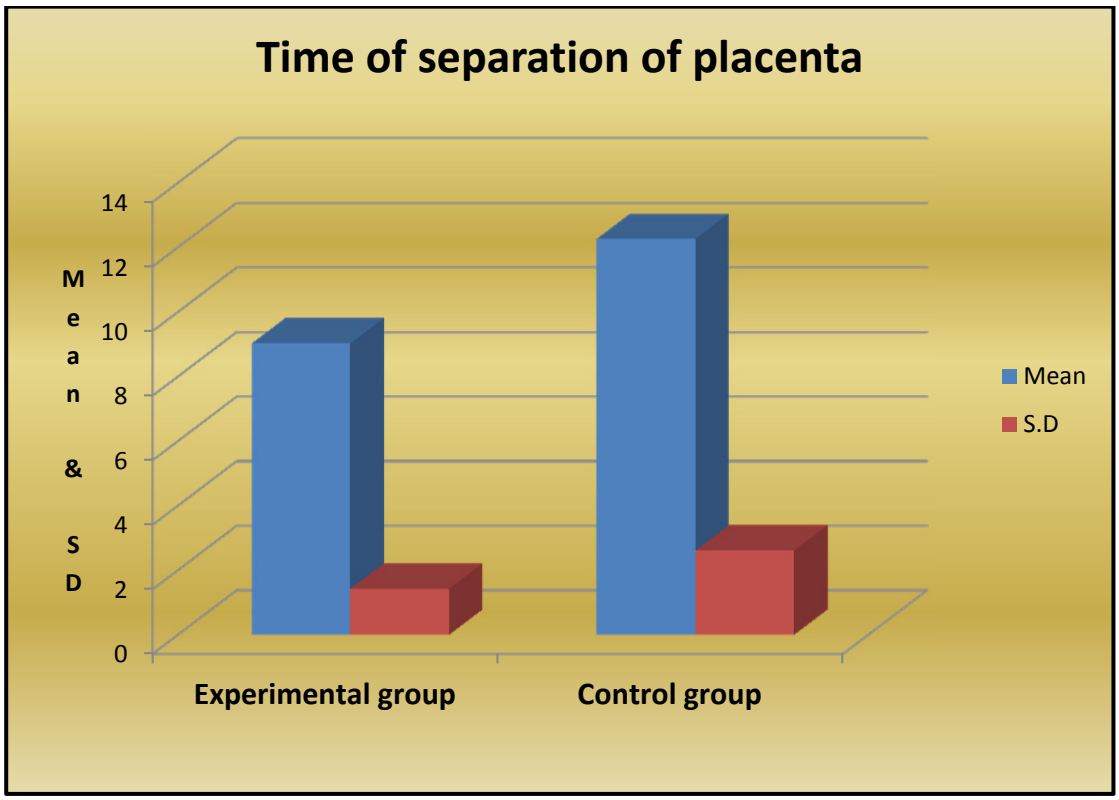


Fig:17 : Distribution of mean and standard deviation of time of separation of placenta between experimental and control group.

The figure represents that the mean value is higher in the control group which is 12.27. The standard deviation of control group is 2.61 which is slightly increased when compared with experimental group.

TABLE6 :UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN BLOOD LOSS DURING DELIVERY BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Blood loss during delivery	Control group		Experimental group		Mean difference	't'-value	p-value
	Mean	SD	Mean	SD			
	210	50.5	163	35.57	47	4.17	**Significant at p<0.001**

The above table illustrates the overall mean score, "t"value and "p" value. The overall mean score in experimental group is 163 and standard deviation is 35.57. The overall mean score in control group is 210 and standard deviation is 50.5. The "t"value is 5.86 at p<0.001 significant level. Hence it concludes that the experimental group minimal blood loss when compared with control group. Thus the breast crawl technique is very effective in reducing the blood loss during delivery.

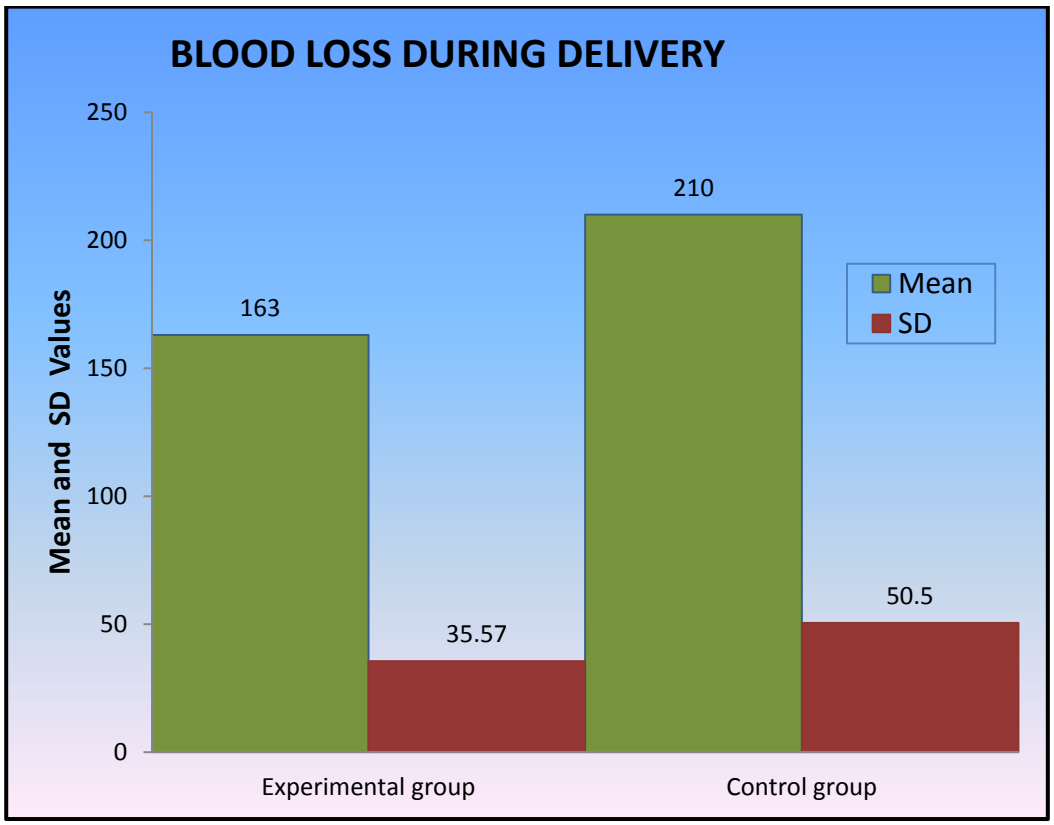


Fig.18 : Distribution of mean and standard deviation of blood loss during delivery between experimental and control group.

The above diagram says that the mean value of experimental group was 163 standard deviation was 35.57 and mean value of control group was 210 and standard deviation was 50.5.

TABLE7 :UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN BLOOD LOSS PER POSTNATAL DAY BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Blood loss per postnatal day	Control group		Experimental group		Mean difference	't'-value	p-value
	Mean	SD	Mean	SD			
	148	20.56	121.33	18.02	26.67	5.34	Significant at p<0.001

The above table illustrates the overall mean score, "t"value and "p" value. The overall mean score in experimental group is 121.33 and standard deviation is 18.02. The overall mean score in control group is 148 and standard deviation is 20.56. The "t"value is 5.86 at p<0.001 significant level. Hence it concludes that the experimental group minimal blood loss when compared with control group. Thus the breast crawl technique is very effective in reducing the blood loss per postnatal day.

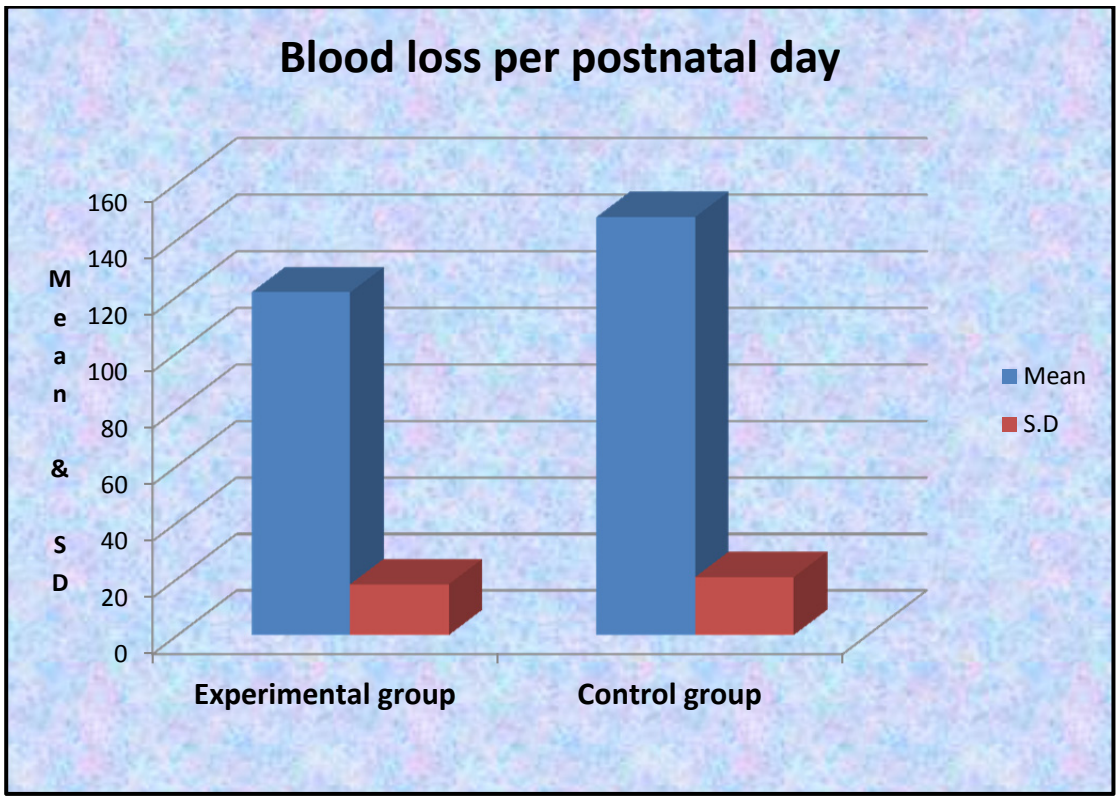


Fig.19 : Distribution of mean and standard deviation of blood loss per postnatal day between experimental and control group.

The figure represents that the mean value is higher in the control group which is 148.The standard deviation of control group is 20.56 which is increased when compared with experimental group.

TABLE 8 : UNPAIRED "t" TEST TO COMPARE THE EFFECTIVENESS OF BREAST CRAWL AMONG MOTHERS IN THE INVOLUTION OF UTERUS PER POSTNATAL DAY BETWEEN EXPERIMENTAL AND CONTROL GROUP.

Involution of uterus per post natal day	Control Group		Experimental Group		Mean Difference	't'-value	P-value
	Mean	SD	Mean	SD			
	1.28	0.33	1.97	0.12	0.69	7.5	Significant at P<0.001

The above table represents that overall mean score, "t" value and "p" value. The overall mean score in experimental group is 1.97 and the standard deviation is 0.12. The overall mean score in control group is 1.28 and standard deviation is 0.33. The "t"value is 7.5 at p<0.001 significant level. Hence it concludes that involution of uterus is very quick when they compared with control group. So the breast crawl technique is very effective in involution of uterus.

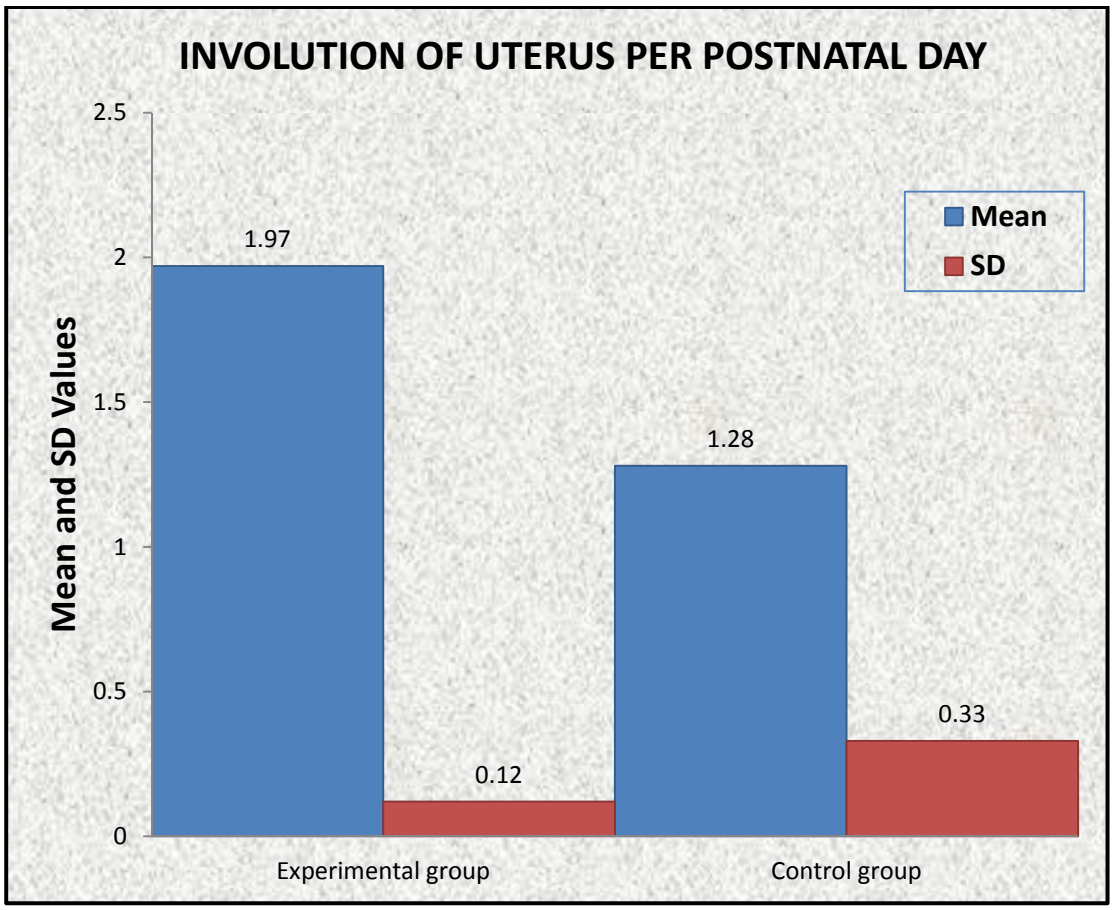


Fig.20 : Distribution of mean and standard deviation of involution of uterus between experimental and control group.

The above figure represents that the mean value of experimental group is1.97 and standard deviation was 0.12. In the control group the mean value is 1.28 and standard deviation is 0.33.

SECTION -D

TABLE9 :ASSOCIATION BETWEEN THE TIME OF INITIATION OF BREAST FEEDING AMONG MOTHERS IN EXPERIMENTAL GROUP AND SELECTED DEMOGRAPHIC AND CLINICAL VARIABLES

Demographic and clinical variables	10-30 min		30-50 min		50-70 min		70-90 min		X^2-value	p-value
	f	%	f	%	f	%	f	%		
Demographic variables										
1.AGE OF THE MOTHER										
a) <18 yrs	0	0	0	0	-	-	-	-	3.47	0.176
b) 18-24 yrs	5	16.7	14	46.7	-	-	-	-	(df=2)	
c) 25-29 yrs	0	0	10	33.3	-	-	-	-		
d) >30 yrs	0	0	1	3.3	-	-	-	-		
2.EDUCATIONAL STATUS										
a) Primary education	1	3.3	1	3.3	-	-	-	-		
b) Higher secondary	3	10	20	66.7	-	-	-	-	2.22	0.529
c) Degree	1	3.3	3	10	-	-	-	-	(df=3)	
d) Illiterate	0	0	1	3.3	-	-	-	-		
3.OCCUPATION										
a) House wife	5	16.7	24	80	-	-	-	-		
b) Cooly	0	0	0	0	-	-	-	-	0.206	0.649
c) Government employee	0	0	0	0	-	-	-	-	(df=1)	
d) Private employee	0	0	1	3.3	-	-	-	-		
4.MARITAL STATUS										
a) Married	5	16.7	25	83.3	-	-	-	-		
b) Unmarried	0	0	0	0	-	-	-	-	0	1
c) Separated/Divorced	0	0	0	0	-	-	-	-		
d) Widow	0	0	0	0	-	-	-	-		
5.RELIGION										
a) Hindu	5	16.7	23	76.7	-	-	-	-		
b) Christian	0	0	0	0	-	-	-	-	0.428	0.513
c) Muslim	0	0	2	6.7	-	-	-	-	(df=2)	
d) Others	0	0	0	0	-	-	-	-		
6.TYPE OF FAMILY										
a) Nuclear family	1	3.3	8	26.7	-	-	-	-	0.286	0.593
b) Joint family	4	13.3	17	56.7	-	-	-	-	(df=2)	
c) Extended family	0	0	0	0	-	-	-	-		

Demographic and clinical variables	10-30 min		30-50 min		50-70 min		70-90 min		X^2-value	p-value
	f	%	f	%	f	%	f	%		
Clinical variables										
7.PARITY										
a) First	4	13.3	14	46.7	-	-	-	-		
b) Second	1	3.3	8	26.7	-	-	-	-	1.2	0.753
c) Third	0	0	1	3.3	-	-	-	-	(df=3)	
d) More than three	0	0	2	6.7	-	-	-	-		
8.DURATION OF 1ST STAGE OF LABOUR										
a) 4-6 hours	1	3.3	7	23.3	-	-	-	-		
b) 6-8 hours	1	3.3	2	6.7	-	-	-	-	0.71	0.701
c) 8-12 hours	3	10	16	53.3	-	-	-	-	(df=2)	
d) >12 hours	0	0	0	0	-	-	-	-		
9.DURATION OF 2ND STAGE OF LABOUR										
a) 1\2 -1 hours	4	13.3	24	80	-	-	-	-	1.71	0.19
b) 1-11/2 hours	1	3.3	1	3.3	-	-	-	-	(df=1)	
c) 11/2-2 hours	0	0	0	0	-	-	-	-		
d) >2 hours	0	0	0	0	-	-	-	-		
10.BABY GENDER										
a) Male	3	10	10	33.3	-	-	-	-	0.678	0.410
b) Female	2	6.7	15	50	-	-	-	-	(df=1)	
11.WEIGHT OF THE BABY										
a) 2000-2500 gms	0	0	0	0	-	-	-	-	1.5	0.472
b) 2500-3000 gms	0	0	2	6.7	-	-	-	-	(df=2)	
c) 3000-3500 gms	5	16.7	19	63.3	-	-	-	-		
d) >3500 gms	0	0	4	13.3	-	-	-	-		

This table shows that there is no significant association between the time of initiation of breast feeding and selected demographic variables in experimental group such as age, educational status, occupation, marital status, religion, type of family, duration of first and second stage of labour, parity, baby gender and weight of the baby.

TABLE 10 : ASSOCIATIN BETWEEN EPISIOTOMY SUTURING PAIN PERCEPTION LEVEL AMONG MOTHERS IN EXPERIMENTAL GROUP AND SELECTED DEMOGRAPHIC AND CLINICAL VARIABLES

Demographic variables	No		Mild		Moderate		Severe		X^2-value	p-value
	f	%	f	%	f	%	f	%		
1.AGE OF THE MOTHER										
a) <18 yrs	0	0	0	0	0	0	0	0		
b) 18-24 yrs	3	10	3	10	14	46.7	2	6.7	11.40	0.077
c) 25-29 yrs	0	0	4	13.3	3	10	0	0	(df=6)	
d) >30 yrs	0	0	0	0	1	3.3	0	0		
2.EDUCATIONAL STATUS										
a) Primary education	0	0	0	0	2	6.7	0	0		
b) Higher secondary	2	6.7	7	23.3	12	40	2	6.7	13.91	0.125
c) Degree	0	0	0	0	4	13.3	0	0	(df=9)	
d) Illiterate	1	3.3	0	0	0	0	0	0		
3.OCCUPATION										
a) House wife	3	10	7	23.3	17	56.7	2	6.7		
b) Cooly	0	0	0	0	0	0	0	0	0.69	0.876
c) Government employee	0	0	0	0	0	0	0	0	(df=3)	
d) Private company employee	0	0	0	0	1	3.3	0	0		
4.MARITAL STATUS										
a) Married	3	10	7	23.3	18	60	2	6.7		
b) Single	0	0	0	0	0	0	0	0	0	1
c) Separated/Divorced	0	0	0	0	0	0	0	0		
d) Husband died	0	0	0	0	0	0	0	0		
5.RELIGION										
a) Hindu	3	10	14	46.7	12	40	-	-		
b) Christian	0	0	0	0	0	0	-	-	1.03	0.309
c) Muslim	0	0	1	3.3	0	0	-	-	(df=6)	
d) Others	0	0	0	0	0	0	-	-		

Demographic variables	No		Mild		Moderate		Severe		X^2-value	p-value
	f	%	f	%	f	%	f	%		
6.TYPE OF FAMILY										
a) Nuclear family	2	6.7	2	6.7	5	16.7	0	0	2.83	0.419
b) Joint family	1	3.3	5	16.7	13	43.3	2	6.7	(df=3)	
c) Extended family	0	0	0	0	0	0	0	0		
7.PARITY										
a) First	1	3.3	10	33.4	9	30	-	-		
b) Second	2	6.7	1	3.3	6	20	-	-	4.2	0.122
c) Third	0	0	1	3.3	0	0	-	-	(df=2)	
d) More than three	-	-	0	0	0	0	-	-		
8.DURATION OF 1st STAGE OF LABOUR										
a) 4-6 hours	2	6.7	3	10	3	10	0	0		
b) 6-8 hours	0	0	2	6.7	1	3.3	0	0	9.74	0.136
c) 8-12 hours	1	3.3	2	6.7	14	46.7	2	6.7	(df=6)	
d) >12 hours	0	0	0	0	0	0	0	0		
9.DURATION OF 2nd STAGE OF LABOUR										
a) 1\2 -1 hours	3	10	7	23.3	16	53.3	2	6.7		
b) 1-11/2 hours	0	0	0	0	2	6.7	0	0	1.43	0.699
c) 11/2-2 hours	0	0	0	0	0	0	0	0	(df=3)	
d) >2 hours	0	0	0	0	0	0	0	0		
10.BABY GENDER										
a) Male	1	3.3	2	6.7	8	26.7	2	6.7	3.37	0.338
b) Female	2	6.7	5	16.7	10	33.3	0	0	(df=3)	
11.WEIGHT OF THE BABY										
a) 2000-2500 gms	0	0	0	0	0	0	0	0		
b) 2500-3000 gms	0	0	0	0	2	6.7	0	0	4.24	0.645
c) 3000-3500 gms	3	10	6	20	14	46.7	1	3.3	(df=6)	
d) >3500 gms	0	0	1	3.3	2	6.7	1	3.3		

This table shows that there is no significant association between the episiotomy suturing pain perception level and selected demographic variables in experimental group such as age, educational status, occupation, marital status, religion, type of family, duration of first and second stage of labour, parity, baby gender and weight of the baby.

DISCUSSION

CHAPTER V

DISCUSSION

Based on the objectives of the study and hypothesis, this chapter deals with the detailed discussion of the results of the data interpreted from the statistical analysis. The problem was to find out the effectiveness of breast crawl on selected maternal outcomes among mothers admitted at labour ward in Government Rajaji Hospital, Madurai.

Breast feeding immediately after delivery encourages the “bonding” of the mother to her infant. Initiation of breastfeeding is the first contact and first breastfeed. The initiation of breastfeeding comprises of early skin-to-skin contact and opportunity to suck within the first hour or soon after birth or both important. Contact and sucking are closely interrelated with each other.

All healthy infants be placed and remain in skin-to-skin contact with their mother immediately after delivery till the baby feeds. A study in Ghana showed that ensuring breastfeeding in the first hour of life reduces neonatal mortality by 22%. In a healthy neonate, suckling reflex is at its duration 30 to 40 minutes after birth. Early feeds stimulates production of prolactin and increases the mean duration of breastfeeding, thus facilitating establishment of milk secretion , prolonged feeding and increased survival of neonates. Problems that are posed are related to the routines that have been established in the labour room that includes cleaning, bathing, weighing etc. These are procedures that do not impact the health and long term survival of the baby and can easily wait till the baby and mother spend time in bonding. The skin-to-skin contact keeps the baby warm and suckling at the breast

helps in initiating lactation. It also helps the mother to expel the placenta and membranes, help the uterus for early involution, minimize the blood loss and deviate the mother from discomfort while episiotomy suturing.

BASELINE CHARACTERISTICS OF EXPERIMENTAL AND CONTROL GROUP

With respect to age group among experimental group, majority of mothers were 19 (63.3%) in the age group of 18- 24 years, 10 (33.3%) were in the age group of 25-29 years and 1 (3.3%) were in the age group of more than 30 years. In the control group 18 (60%) were in the age group of 18-24 years, 11 (36.7%) were in the age group of 25-29 years and 1 (3.3%) were in the age group of more than 30 years.

Regarding educational status, in experimental group, 23 (76.7%) mothers have finished higher secondary education, 4 (13.3%) mothers have completed degree, 2 (6.7%) mothers finished primary education and 1 (3.3%) mothers are illiterate. In the control group, 20 (66.7%) mothers have completed their higher secondary education, 9 (30%) mothers have finished primary education and only 1(3.3%) mother has completed degree.

In the view of occupation majority of the mothers are housewives in both groups. In the experimental group, 96.7% of mothers are housewives and only 3.3% of mothers are private employee. In the control group all of the mothers are housewives the percentage is 100%.

In the aspect of religion, 93.3% of mothers are belongs to Hindu and6.7%of mothers are belongs to Muslim in experimental group. In the control group, Hindu mothers are 96.7% and Muslim mothers are 3.3%.

Regarding the type of family, in the experimental group, 70% of the mothers are from joint family and the percentage of nuclear family is 30%. In the control group, majority of the mothers are from the joint family and the percentage is 63.3% and mothers from nuclear family is 36.7%.

With the aspect of parity, majority of the mothers have first child birth which is 60%, 30% of mothers have second child birth, 3.3% of mothers have third child birth and 6.7% of mothers have more than three child birth in the experimental group.

In the aspect of the baby gender, the percentage of children is equal in both groups. Both groups have 56.7% of female babies and 43.3% of male babies.

Regarding the weight of the baby, 80% of babies have 2500-3000gms, 6.7% of babies have 2500-200gms and 13.3% of babies have 3000-3500gms of birth weight in the experimental group. In the control group, the percentage of babies is 80% in 2500-3000gms category, 10% of babies in 2000-2500gms category and 10% of babies in 3000-3500gms category.

FINDINGS BASED ON OBJECTIVES

The first objective was to assess the post test level of selected maternal outcomes among mothers in experimental and control group admitted in labour ward at Government Rajaji Hospital, Madurai.

The time of initiation of breast feeding in both groups was assessed by using latch feeding scale. With the use of this scale, majority of the babies have attached and initiated their first feed within 30-50 minutes and the percentage was 83.3% and 16.7% of babies have started their first feed within 10-30 minutes in the experimental group. In the control group, the majority of the babies have initiated

their feed within 50-70 minutes period and 6.7% of babies started at 30-50 minutes time interval. 63.3% of mothers perceived moderate pain, 23.3% of mothers perceived mild pain and only 3.3% of mothers perceived severe pain in the experimental group. In the control group, 53.3% of mothers perceived severe pain and 46.7% of mothers perceive moderate pain.86.7% of the mothers in the experimental group were from 0-10 minutes inthe time of separation of placenta and 73.3% of mothers were from 10-20 minutes in the contro group. The maximum amount of blood loss in the experimental group was 100-200ml and the percentage was 76.7% and the amount of blood loss in the control group was 200-300ml. Height of uterus per postnatal day in the experimental group was 2cms below the umbilicus and the percentage was 93.3%. In the control group the percentage was 63.3% and the height of the uteruswas 1.5 cms below the umbilicus.

This present study findings were consistent with the study done by Dr. Righard and Alade, (1990) conducted a study to assess the effects of continuous emotional and social support for the mother by a skilled labour support woman on decreasing the complications of labour and the importance of the infant's early contact with the mother after birth which encouraged or led to longer and more sustained breast feeding. Findings of the study revealed that around 30-40 minutes after birth, the newborn begins making mouthing movements, sometimes with lip smacking. After attachment successfully, newborns continued to suckle for 20 minutes. The findings suggest that the time of onset of initiation of breast feeding markedly decreased when they compared with routine hospital care.

Another study was consistent with this present study and which was done by Dr. D.Y. Patil (2012) conducted an experimental study to assess the maternal and neonatal outcomes of early skin-to-skin contact. She took 60 mother and newborn

dyads. Thirty mothers and babies assigned in both groups by simple randomization. The babies were allowed to contact with mothers up to 1 hour. The babies crawled and latched on to the breasts by 74 minutes after birth and the episiotomy repair discomfort was distracted in experimental group.

The second objective was to evaluate the effectiveness of breast crawl on selected maternal outcomes among mothers in experimental and control group.

Most of the babies (83.3%) in experimental group initiated their breast feeding within 30-50 minutes. In the control group, the majority of babies (93.3%) took their breast feeding within 70-90 minutes. The mean score of time of initiation of breast feeding in the experimental group was 41.57 which was significantly lower than the control group that was 59.47. The calculated "t" value is 10.66, at $p<0.001$ level of significance. Thus the study concludes that the time of initiation of breast feeding in the experimental group was lower than when compared to control group. So the breast crawl technique is effective in the initiation of breast feeding.

The episiotomy suturing pain perception of mothers in the experimental group was moderate the percentage was 63.3%. In the control group, the pain perception was severe pain and the percentage was 53.7%. The mean score of episiotomy suturing pain in the experimental group is 4.33 which was significantly lower than the control group score that is 6.77. The obtained "t" value is 5.86 at $p<0.001$ significant level. Thus the study concludes that the experimental group experienced less level of episiotomy suturing pain when compared with control group. So breast crawl technique is effective in reducing the pain perception while episiotomy suturing.

The mean score of time of separation of placenta in the experimental group is 9.03 which is significantly lower than the control group that is 12.27.The obtained "t" value is 6.0 at $p<0.001$ significant level. Hence the results concludes that the experimental group has less time in separation of placenta. So breast crawl technique is effective in reducing the time of placenta separation.

The mean score of blood loss during delivery and per postnatal day is 163 and 121.33 respectively which is significantly higher than the control group. The mean difference between the experimental and control group is 47 and 26.67 during delivery and per postnatal day respectively. The obtained "t" value during delivery and per postnatal day is 4.17 and 5.34 respectively significant at $p<0.001$ level. The results reveals that the experimental group experiencences less amount of blood loss when compared with control group.

The mean score of experimental group is 1.97 and the standard deviation is 0.12 which is considerably higher than the contol group. Mean difference between both group is 0.69. Obtained "t" value is 7.5 at $p<0.001$ significant level.The experimental group's involution of uterus is 2cms per day which is higher than the control group that is double the amount of control group. The results reveals that the experimental group has quick involution of uterus.

The finding of the study was consistent with the study done by Mahmood I, Jamal M and Khan N (2006), a randomized controlled study to assess the effects of early skin-to-skin contact with usual hospital care. They included 183 mothers and baby pairs in their study. They found that statistically significant and positive effects of early breast feeding. The mean time to initiate breast feeding was 61.6 minutes shorter than control group (40.62 vs 101.88; $p<0.001$).

Another study done by Dr. Abjijit L. Kulkarni (2010) was consistent with the study findings. The researchers took 250 term babies delivered by normal vaginal route. 125 babies were assigned in the experimental group and 125 babies in the control group by computer generated randomization chart. The babies were followed up for a period of six months. In the interventional group early skin- to-skin contact intervention is used. In the control group Bedding-in method is used. The results were 81.6% of babies in the intervention group demonstrated breast crawl. 93.6% babies in the interventional group could initiate Breastfeeding within one hour compared to 47.2% in the control group ($p<0.001$). The rate of Exclusive Breast Feeding at the end of six months in the interventional group was 72.5% Vs 45.2% in the control group ($p<0.001$). They concluded that early skin-to-skin contact of the baby with the mother promotes early initiation of Breastfeeding and Exclusive Breast Feeding.

Thus the research hypotheses "H_1: There is a significant difference in the post test level of selected maternal outcomes among mothers between experimental and control group" was retained.

The third objective of the study was to associate the post level of selected maternal outcomes among mothers in experimental group with selected demographic and clinical variables.

The analysis of the study revealed that with regard to educational status in the experimental group the calculated $\mathbf{X^2}$ value was 0.529 and p value =0.529 which showed that there was no significant association between post test score of mothers and educational status in the time of initiation of breast feeding

The analysis of the study revealed that with the regard to weight of the baby in the experimental group, the calculated $\mathbf{X^2}$ value was 1.5 and p value = 0.472

which showed that there was no significant association between post test scores of mothers and the time of initiation of breast feeding.

Thus the research hypotheses "H_2: There is a significant association between the post test level of selected maternal outcomes of mothers in experimental group and selected demographical and clinical variables" was detained in this study.

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

CHAPTER VI

SUMMARY, CONCLUSION & RECOMMENDATIONS

This chapter deals about summary of the study findings, conclusion, Implications of the study in different areas of nursing like nursing education, nursing administration, nursing practice and nursing research and recommendations.

6.1 SUMMARY OF THE STUDY

Breast feeding is a natural human activity, difficulty are not uncommon. Breast crawl is important just after the delivery, the baby sucking reflex is strong and baby is more alert. Putting the baby to the breast as soon as possible after birth helps to avoid many problems.Proportions of babies breastfed by day 1 (median 72%, inter-quartile range 60% to 82%), and within the first hour (median 36percent, inter-quartile range 26-52percent) were low. For all countries combined, it was estimated that neonatal mortality could be reduced by 24percent if 99percent of babies initiated breastfeeding, on day 1 of life and by 31percent if 99percent of initiation was within the first hour.A global risk assessment of deaths and years of life lost due to suboptimal breastfeeding among children in the developing country revealed that attributable fractions for deaths due to diarrhoeal disease and lower respiratory tract infections are 55percent and 53percent, respectively, for the first six months of infancy, 20percent and 18percent for the second six months, and are 20percent for all-cause deaths in the second year of life. The authors concluded that globally, as many as 1.45 million lives (117 million years of life) are lost due to suboptimal breast-feeding in developing countries. The study suggested that

initiation of breastfeeding within 1 hour could cut22percentall neonatal mortality. It calls for support to all mothersduring the first hour to ensure early initiation of breastfeeding.

So the investigator conducted a study to assess the effectiveness of breast crawl on selected maternal outcomes among intra natal mothers admitted in labour ward at Govt. Rajaji Hospital, Madurai.

The objectives of the study were

- To assess the post test level of selected maternal outcomes among mothers in experimental and control group admitted in labour ward at Government Rajaji Hospital, Madurai.
- To evaluate the effectiveness of breast crawl on selected maternal outcomes among mothers in experimental and control group admitted in labour ward at Government Rajaji Hospital, Madurai.
- To associate post test level of selected maternal outcomes among mothers in experimental group with selected demographic and clinical variables**.**

The following hypothesis were tested

- **H_1 -** There is a significant difference in the post test level of selected maternal outcomes among mothers between experimental and control group.
- **H_2 -** There is significant association between the post test level of selected maternal outcomes among mothers in experimental group and selected demographic and clinical variables.

The setting of the study was labour ward in Government Rajaji Hospital at Madurai. The research approach used in the study was quantitative approach and the design was true experimental post test only design. The sampling technique used in the study was simple random sampling technique. The sample size of the study was 60 among that 30 were in the experimental group, 30 were in the control group. A wide review of related literature, professional experience and expert's guidance provided strong foundation for the study. The content validity and reliability for the tool was obtained prior to the study. A pilot study was conducted prior to the main study and it showed that the study was feasible and practicable. A modified Ernestine Widenbach'smodel for midwifery practice (1964) was formulated which provided a useful means in assessing the maternal outcomes among mothers admitted in labour ward. The data collection was done for a period of five weeks from 12.08.14 – 15.09.14. Breast crawl technique was performed to the experimental group. In the experimental group, soon after birth the baby was cleaned and placed on the mother's chest and the baby was allowed to remain in the same place until it takes its first feeding. Time of initiation of breast feeding was assessed by using latch scale. The amount of blood loss was calculated by using blood drape and weighing the blood stained gauze and pads. Time of separation of placenta was assessed in minutes and involution of uterus was assessed by means of inch tape. Numerical visual analogue pain scale was used to assess the pain level while episiotomy suturing. Routine hospital procedure was performed to the control group. Post test was conducted to both experimental group and control group. The data were analyzed using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY

- In experimental group majority of the mothers 63.3% were in the age group of 18-24 years, in the control group majority of them 60% were in the age group of 18-24 years.
- The majority of the mothers in the experimental group have finished their higher secondary education and the percentage was 76.7%, in the control group the percentage of mothers was 66.7%.
- Most of the mothers were housewives in both experimental and control group and the percentage was 96.7% and 100% respectively.
- The highest percentage of mothers were belongs to Hindu religion in the experimental group that was 93.3% and in the control group it was 96.7%.
- The highest percentage of mothers was from joint family in both experimental and control group and the percentage was 70% and 63.3% respectively.
- The percentage of baby gender was equal in both groups. 43.3% of male babies and 56.7% of female babies were in both groups.
- In both group, the percentage of babies weighing 2-2 ½ kgs were equal and that was 80%. The next peak percentage of weight of babies in the experimental group was 13.3% in the category of 3-3 ½ kgs.
- In the experimental group, the placenta separation time was quick within 10 minutes and the percentage of mothers was 86.7% whereas the percentage was only 23.3% in the control group.

- Majority of mothers (83.3%) in the experimental group had initiated breastfeeding to their babies within 30-50 minutes but in the control group, 93.3% of mothers fed their babies within 50-70 minutes period.
- 73.3% of mothers lost 200-300ml of blood during labour in the control group. But in the experimental group, 76.7% of mothers lost only 100-200ml of blood.
- In the experimental group, the mothers' uterus had quick involution than control group. The mothers had 2 cms reduction in the height of the uterus in every postnatal day.
- The mothers in the experimental group perceived lesser episiotomy repairing pain than the control group.

6.2 CONCLUSION

According to the results of this study, the mothers in the experimental group who received breast crawl technique had significance in the time of initiation of breast feeding, time of separation of placenta, blood loss during delivery and per postnatal day, involution of uterus and episiotomy suturing pain perception level at labour ward in Government Rajaji Hospital, Madurai. Breast crawl technique needs no additional equipment, affordable and comfortable. So the researcher concludes that breast crawl technique is an effective intervention to initiate breast feeding, reduce blood loss during delivery and per postnatal day, reduce the time of separation of placenta, helps in early involution of uterus and reduce the episiotomy suturing pain perception level.

6.3 IMPLICATIONS OF THE STUDY

The study has implications in nursing practice, nursing education, nursing research and nursing administration.

NURSING PRACTICE

- The nurses should enlighten their knowledge on the breast crawl technique among mothers with term newborns to early initiate breastfeeding and reduce pain perception level while episiotomy suturing.
- Nurses can use evidence based practice in improving quality and standard of care.
- Nurses must be trained in the aspect of the breast crawl technique and they should know its scientific principles involved in it.
- Mothers should be educated about the importance and benefits of breast crawl technique to manage the complications of third stage of labour.

NURSING EDUCATION

- The nursing students should educate the mothers and community regarding early initiation of breast feeding by skin-to-skin contact and the management of complications of third stage of labour.
- The nursing curriculum should include the breast crawl technique.
- As a part of maternity and child health, the nursing students need to be trained in identifying the complications of third stage of labour in both hospital and community settings.
- Nursing at post graduate level have to develop their skill in practicing the technique.

NURSING ADMINISTRATION

- The nurse administrator should be cautious in providing information regarding the complications and management of third stage of labour by breast crawl technique to the hospital and community.
- The nurse administrator can motivate the students to do further research on breast crawl technique.
- The nurse administrator should plan for continuing service education and in service education regarding breast crawl technique on the management of breast feeding difficulties and complications of third stage of labour.
- The nurse administrator should encourage the nurses to use different, safe, cost - effective measures to initiate breast feeding and reduce pain perception level while episiotomy suturing among mothers.

NURSING RESEARCH

- Feeding problems and increased pain perception while episiotomy suturing is one of the common problems among mothers and the breast crawl technique is one of the effective interventions on reducing these problems.
- This study motivates the maternal and child health nurses to apply research findings and can bring out new innovative and cost effective measures on reducing feeding problems.
- Extensive research can be conducted to create awareness to the hospitals and the community regarding the problems and its management by breast crawl technique.

6.4 RECOMMENDATIONS

- The study can be replicated with a large sample size with different settings to generalise the findings.
- A comparative study can be conducted with breast crawl technique between the caesarean delivery and normal delivery mothers.
- A qualitative approach can be applied in studying the effect of breast crawl technique and bonding of mother and baby dyads.

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APPENDICES

APPENDIX-I

SECTION –A

SELF ADMINISTERED QUESTIONNAIRE

SOCIO DEMOGRAPHIC AND CLINICAL DATA

Please tick the correct option from the following data. Your information will be kept confidential.

1. Age of the mother

a. < 18 yrs [ ]

b. 18-24 yrs [ ]

c. 25-29 yrs [ ]

d. > 30 yrs [ ]

2. Educational Status

a. Primary Education [ ]

b. Higher Secondary [ ]

c. Degree [ ]

d. Illiterate [ ]

3. Occupation

a. House wife [ ]

b. Cooly [ ]

c. Private employee [ ]

d. Government employee [ ]

4. Marital Status

a. Married [ ]

b. Unmarried [ ]

c. Separated / Divorced [ ]

d. Widow [ ]

5. Religion

a. Hindu [ ]

b. Christian [ ]

c. Muslim [ ]

d. Others [ ]

6. Type of family

a. Nuclear Family [ ]

b. Joint Family [ ]

c. Extended Family [ ]

7. Parity

a. First [ ]

b. Second [ ]

c. Third [ ]

d. More than three [ ]

8. Duration of I stage of labour

a. 4 – 6 hours [ ]

b. 6 – 8 hours [ ]

c. 8 – 12 hours [ ]

d. > 12 hours [ ]

9. Duration of second stage of labour

a. ½ - 1 hour [ ]

b. 1 – 1½ hours [ ]

c. 1½ - 2 hours [ ]

d. > 2 hours [ ]

10. Baby Gender

a. Male [ ]

b. Female [ ]

11. Weight of the Baby

a. 2000 -2500 gms [ ]

b. 2500 – 3000 gms [ ]

c. 3000-3500 gms [ ]

d. > 3500 gms [ ]

SECTION – B

CLINICAL OBSERVATION CHECK LIST

1. **Time of Separation of Placenta**

    a. 0-10 minutes [ ]

    b. 10-20 minutes [ ]

    c. 20-30 minutes [ ]

    d. > 30 minutes [ ]

2. **Time of initiation of breast feeding**

    a. 10 – 30 minutes [ ]

    b. 30 – 50 minutes [ ]

    c. 50 - 70 minutes [ ]

    d. 70 – 90 minutes [ ]

3. **Blood loss observed during labour**

    a. 100-200ml [ ]

    b. 200-300ml [ ]

    c. 300-400ml [ ]

    d. 400-500ml [ ]

4. **Blood loss observed per post natal day**

    a. < 200 ml [ ]

    b. 200-250ml [ ]

    c. 250-300ml [ ]

    d. 300-350ml [ ]

5. Height of Uterus soon after delivery

a. In between the umbilicus and Symphysis Pubis [ ]

b. At the level of umbilicus [ ]

c. Just above the level of umbilicus [ ]

d. Below the umbilicus [ ]

6. Height of Uterus after 1 hour of delivery

a. Just above the level of umbilicus [ ]

b. At the level of umbilicus [ ]

c. Below the umbilicus [ ]

d. In between the umbilicus and Symphysis Pubis [ ]

7. Height of Uterus on the first postnatal day

a. 2cms below the umbilicus [ ]

b. 1.5cms below the umbilicus [ ]

c. 1cm below the umbilicus [ ]

d. Same like the previous day [ ]

8. Height of Uterus on the second postnatal day

a. 4cms below the umbilicus [ ]

b. 3cms below the umbilicus [ ]

c. 2cms below the umbilicus [ ]

d. Same like the previous day [ ]

9. Pain perception during episiotomy suturing

a. No pain [ ]

b. Mild [ ]

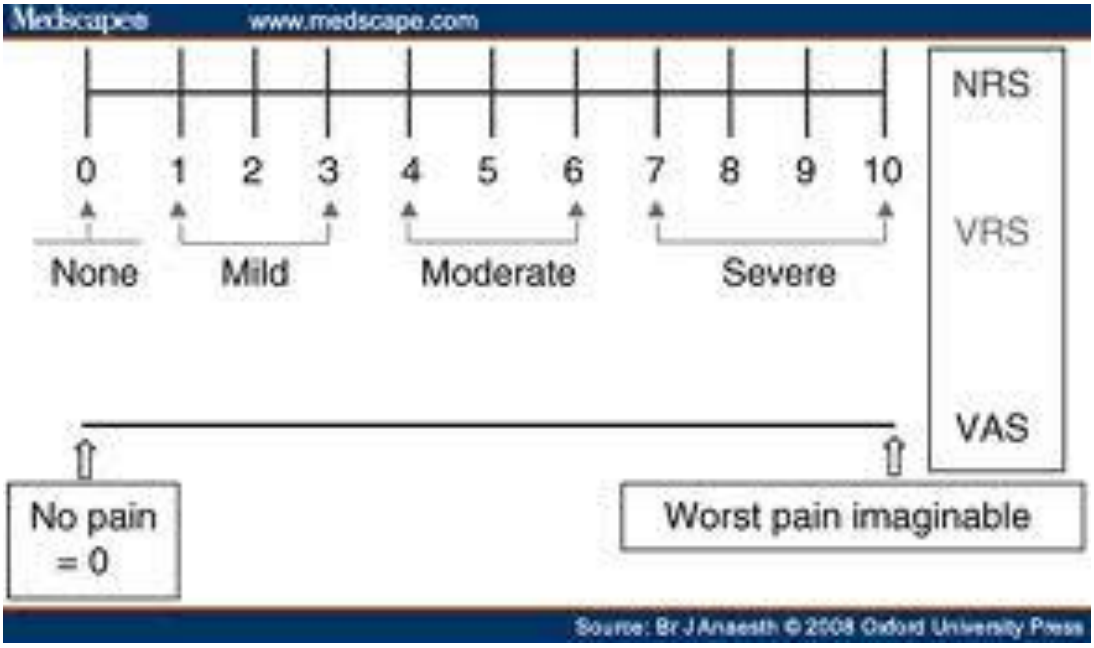
c. Moderate [ ]

d. Severe [ ]

LATCH SCALE

	0	1	2
L - Latch	• Too sleepy or reluctant • No Latch achieved	• Repeated attempts • Hold nipple in mouth • Stimulate to suck	• Grasps breast • Tongue down • Lips flanged • Rhythmic sucking
A- Audible Swallowing	• None	• A few with stimulation	• Spontaneous and intermittent <24 hours old • Spontaneous and intermittent >24 hours old
T-Type of Nipple	• Inverted	• Flat	• Everted (after stimulation)
C-Comfort	• Engorged • Cracked, bleeding, large blisters or bruises • Severe discomfort	• Filling • Reddened/small blisters or bruises • Mild/moderate discomfort	• Soft • Tender
H-Hold (positioning)	• Baby requires wrapping • Pillow required for support • Mother learning skills	• Minimal support required • Mother gaining confidence	• No assist from staff • Mother able to position/hold infant • Mother and baby relaxed • Mother competent

VAS NUMERICAL PAIN SCALE



பகுதி - அ

கீழ்கண்டவற்றில் பொருத்தமானவற்றை (√) குறியிடவும். தங்களைப் பற்றிய விபரங்கள் பாதுகாக்கப்படும்,

1. தாயின் வயது

அ. 18 வயதிற்குள் [ ]

ஆ. 18 - 24 வயது [ ]

இ. 25 - 29 வயது [ ]

ஈ. 30 வயதிற்கு மேல் [ ]

2. கல்வி

அ. 1 - 8-ம் வகுப்பு [ ]

ஆ. 10 - 12-ம் வகுப்பு [ ]

இ. பட்டபடிப்பு [ ]

ஈ. படிக்கவில்லை [ ]

3. வேலை

அ. குடும்பதலைவி [ ]

ஆ. கூலி [ ]

இ. தனியார் வேலை [ ]

ஈ. அரசு பணி [ ]

4. திருமண விபரம்

அ. திருமணமானவர் [ ]

ஆ. திருமணமாகவில்லை [ ]

இ. விவாகரத்தானவர் / கணவரை பிரிந்தவர் [ ]

ஈ. கணவரை இழந்தவர் [ ]

5. மதம்

அ. இந்து [ ]

ஆ. கிறிஸ்தவர் [ ]

இ. முஸ்லீம் [ ]

ஈ. பிறமதத்தினர் [ ]

6.குடும்பம்

அ. தனிக் குடித்தனம் [ ]

ஆ. கூட்டுக்குடும்பம் [ ]

இ. விரிவுபடுத்தப்பட்டகுடும்பம் [ ]

7.இது எத்தனையாவது குழந்தை / குழந்தையின் எண்ணிக்கை

அ. முதல் [ ]

ஆ. இரண்டாவது [ ]

இ. மூன்றாவது [ ]

ஈ. மூன்று குழந்தைகளுக்கு மேல் [ ]

8.முதல்பிரசவநிலையின்நேரம்

அ. 4- 6 மணிநேரத்திற்குள் [ ]

ஆ. 6 - 8 மணிநேரத்திற்குள் [ ]

இ.8 - 12 மணிநேரத்திற்குள் [ ]

ஈ.12 மணிநேரத்திற்குமேல் [ ]

9. இரண்டாம்பிரசவநிலையின்நேரம்

அ. ½ - 1 மணிநேரம் [ ]

ஆ. 1 – 1½ மணிநேரம் [ ]

இ. 1½ - 2 மணிநேரம் [ ]

ஈ. 2 மணிநேரத்திற்குமேல் [ ]

10. என்ன குழந்தை

அ. பெண் [ ]

ஆ. ஆண் [ ]

11. குழந்தையின் எடை

அ. 2 - 2 ½ [ ]

ஆ. 2 ½ - 3 கிலோ [ ]

இ. 3 - 3 ½கிலோ [ ]

ஈ. 3 ½கிலோவுக்கு மேல் [ ]

பகுதி - ஆ

<u>கவனித்துசரிபார்க்கும்பட்டியல்</u>

1. நஞ்சு பிரிந்த நேரம்

அ. 0-10 நிமிடம் [ ]

ஆ. 10-20 நிமிடம் [ ]

இ. 20-30 நிமிடம் [ ]

ஈ. 30 நிமிடத்திற்கு மேல் [ ]

2. தாய்ப்பால் ஊட்டிய நேரம் / தாய்ப்பால் கொடுத்த நேரம்

அ. 10-30 நிமிடத்திற்குள் [ ]

ஆ. 30-50 நிமிடத்திற்குள் [ ]

இ. 50-70 நிமிடத்திற்குள் [ ]

ஈ. 70-90 நிமிடத்திற்குள் [ ]

3. பிரசவித்தின் போது ஏற்பட்ட உதிரபோக்கின் அளவு

அ. 100-200 மில்லி [ ]

ஆ. 200-300 மில்லி [ ]

இ. 300-400 மில்லி [ ]

ஈ. 400-500 மில்லி [ ]

4. பிரசவித்த மற்ற நாட்களில் நாளொன்றிற்கு ஏற்பட்ட உதிரபோக்கின் அளவு

அ. 100-150 மில்லி [ ]

ஆ. 150-200 மில்லி [ ]

இ. 200-250 மில்லி [ ]

ஈ. 250-300 மில்லி [ ]

5.பிரசவமானஉடன்கர்ப்பப்பைஉள்ளஇடம்

அ. தொப்புளுக்கும், (Symphysis Pubis) சிம்பைசிஸ்

ப்யூபிஸ்க்கும்நடுவில் [ ]

ஆ. தொப்புளுக்கு கொஞ்சம் கீழாக [ ]

இ. தொப்புளுக்கு நேராக [ ]

ஈ. தொப்புளுக்கு கொஞ்சம் மேலாக [ ]

6. பிரசவமானஒருமணிநேரத்தில்கர்ப்பப்பைஉள்ளஇடம்

அ. தொப்புளுக்கு கொஞ்சம் மேலாக [ ]

ஆ. தொப்புளுக்கு நேராக [ ]

இ. தொப்புளுக்கு கொஞ்சம் கீழாக [ ]

ஈ. தொப்புளுக்கும், (Symphysis Pubis) சிம்பைசிஸ்

ப்யூபிஸ்க்கும் நடுவில் [ ]

7. பிரசவமான முதல் நாளில்கர்ப்பப்பைஉள்ளஇடம்

அ. 2 செ.மீ தொப்புளுக்கு கீழாக [ ]

ஆ. 1½ செ.மீ தொப்புளுக்கு கீழாக [ ]

இ. 1 செ.மீ அதிகமாக தொப்புளுக்கு கீழாக [ ]

ஈ. முதல் நாளைப் போல [ ]

8. இரண்டாம் நாளில்கர்ப்பப்பைஉள்ளஇடம்

அ. 4 செ.மீ தொப்புளுக்கு கீழாக [ ]

ஆ. 3 செ.மீ தொப்புளுக்கு கீழாக [ ]

இ. 2 செ.மீ. தொப்புளுக்கு கீழாக [ ]

ஈ. முதல் நாளைப் போல [ ]

9. எபிஸியாட்டமி (Epysiotomy) தையலின்போது வலியின் அளவு

அ. வலிஇல்லை [ ]

ஆ. குறைவாக [ ]

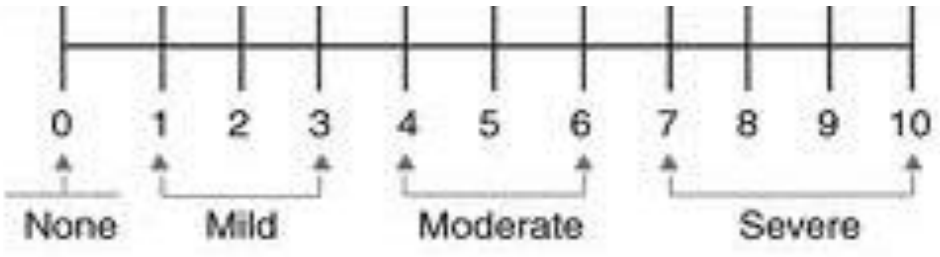
இ. மிதமாக [ ]

ஈ. அதிகமாக [ ]

குழந்தை பால் குடிப்பதை அளக்கும் (லாட்ச்) அளவுகோல்

	0	1	2
L - கவ்வி பிடிக்கும்முறை	➢ தூங்கி கொண்டிருத்தல் ➢ கவ்வி பிடிக்காமல் இருத்தல்	➢ அடிக்கடி முயற்சி செய்யாமல் இருத்தல் ➢ கவ்வி பிடித்துபால் குடிக்காமல் இருத்தல் ➢ பால் குடிக்க தூண்டுதல்	➢ நன்றாக கவ்வி பிடித்தல் ➢ நாக்கு கீழ் இருத்தல் ➢ அடிக்கடிபால் குடித்தல்
A - பால் விழுங்கும் சத்தம்	➢ இல்லை	➢ ஒரு சில முறை	➢ தானாகஅடிக்கடிபால் குடித்தல் (பிறந்து24 மணி நேரத்திற்குள்) ➢ தானாகஅடிக்கடிபால் குடித்தல் (பிறந்த24 மணி நேரத்திற்கு மேல்)
T - காம்பின் வகை	➢ உள்ளிருத்தல்	➢ சமமாகஇருத்தல்	➢ வெளியே இருத்தல்
C - காம்பின் வகை	➢ வீக்கம் ➢ வெடிப்பு ➢ இரத்தம் வடிதல் ➢ கட்டி ➢ காயம் ➢ அதிகமான வலி	➢ சிவப்பு மற்றும் சிறிய கட்டிகள், காயங்கள் ➢ மிதமான வலி ➢ பால் கட்டிஇருத்தல்	➢ லேசாகஇருத்தல் ➢ மென்மையாகஇருத்தல்
H - குழந்தையை வைத்திருக்கும் முறை	➢ குழந்தையை சுற்றி வைத்தல் ➢ தலையனையை வைத்துகொள் ளுதல் ➢ கற்றுத்தர சொல்லுதல்	➢ குறைவான உதவியை நாடுதல் ➢ தாயின் தன்னம்பிக்கை உயருதல்	➢ உதவி நாடாமல் இருத்தல் ➢ குழந்தையை நன்றாக பிடித்துஇருத்தல் ➢ தாயும், குழந்தையும் நன்றாகஇருத்தல் ➢ நன்றாகபால் கொடுத்தல்

VISUAL ANALOG PAIN SCALE



வி.ஏ.எஸ் [VAS] வலிஎண்அளவுகோல்

0	1	2	3	4	5	6	7	8	9	10
வலி இல்லை	**குறைவான வலி**			**மிதமான வலி**			**அதிகமான வலி**			

APPENDIX-II

PERMISSION LETTER

From

Mrs. M. Komalavalli,
II year M.Sc (N) student,
College of Nursing,
Madurai Medical College,
Madurai-20.

To

The Professor and Head of the Department,
Institute of Child health and Research,
Government Rajaji Hospital,
Madurai-20.

Through: The proper Channel

Respected Sir/Madam,

Sub: II year M.Sc Nursing student - College of Nursing, Madurai Medical College Madurai - conducting dissertation study - labour ward, Government Rajaji Hospital, Madurai - permission - requested regarding.

As per the curriculum recommended by The TamilnaduDr.MGR Medical University I have selected the study topic "**A study to assess the effectiveness of Breast crawl on selected outcome among mothers admitted in labour ward at Government Rajaji Hospital, Madurai**" for the partial fulfillment of the PG course.

I kindly request you to consider my letter and allow me to conduct the study.

Thanking you,

Date: 30.07.14,

Place: Madurai-20.

Yours faithfully,

M. Komalavalli

(M. KOMALAVALLI) 30/7/14

Forwarded
S.P.
30/7/14
Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.

Permitted
25/7/14
PROF. & HOD
DEPT. OF C & C
Madurai Medical College
Madurai

PERMISSION LETTER

From

Mrs. M. Komalavalli,
II year M.Sc (N) student,
College of Nursing,
Madurai Medical College,
Madurai-20.

To

The Director
The Professor and Head of the Department,
Institute of Child health and Research,
Government Rajaji Hospital,
Madurai-20.

Through: The proper Channel

Respected Sir/Madam,

Sub: II year M.Sc Nursing student - College of Nursing, Madurai Medical College Madurai - conducting dissertation study - labour ward, Government Rajaji Hospital, Madurai - permission - requested regarding.

As per the curriculum recommended by The TamilnaduDr.MGR Medical University I have selected the study topic "**A study to assess the effectiveness of Breast crawl on selected outcome among mothers admitted in labour ward at Government Rajaji Hospital, Madurai**" for the partial fulfillment of the PG course.

I kindly request you to consider my letter and allow me to conduct the study.

Thanking you,

Date: 25/07/14.

Place: Madurai.

Yours faithfully,

M. Komalavalli
25/7.

(M. KOMALAVALLI)

Forwarded
S. P
25/7/14

Mrs. S. POONGUZHALI
M.Sc(N)., M.A.,M.B.A., Ph.D.,
PRINCIPAL
College of Nursing
Madurai Medical College
Madurai-20.

DIRECTOR
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI-625020

APPENDIX-III

Ref. No. 68/E4/2/2014, **Govt. Rajaji Hospital,**
Madurai.20. Dated:26.02.2014

Institutional Review Board / Independent Ethics Committee.
Capt. Dr.B. Santhakumar, M.D., (F.M.,) deanmdu@gmail.com
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convenor**

Sub: Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

1.Dr.V. Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029 nag9999@gmail.com	Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1	Chairman
2. Dr.Mohan Prasad , M.S M.Ch Cell.No.9843050822 (Oncology) drbkcmp@gmail.com	Professor & H.O.D of Surgical Oncology(Retired) D.No.32, West Avani Moola Street, Madurai -1	Member Secretary
3. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056 drparameswari@yahoo.com	Director of Pharmacology Madurai Medical College	Member
4. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048 svadivelmurugan_2007@rediffmail.com	Professor& H.O.D of Medicine Madurai Medical College	Member
5. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031 drsundarms@gmail.com	Professor & H.O.D of Surgery Madurai Medical College	Member
6. Mrs. Mercy Immaculate Rubalatha, M.A., Med., Cell. No. 9367792650 lathadevadoss86@gmail.com	50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20	Member
7. Thiru..Pala. .Ramasamy , BA.,B.L., Cell.No 9842165127 palaramasamy2011@gmail.com	Advocate, D.No.72.Palam Station Road, Sellur, Madurai -2	Member
8. Thiru. P.K.M. Chelliah ,B.A Cell.No 9894349599 pkmandco@gmail.com	Businessman, 21 Jawahar Street, Gandhi Nagar, Madurai-20	Member

The following Project was approved by the committee.

Name of P.G	Course	Name of the project	Remarks
M. Komalavalli	M.Sc., (Nursing) College of Nursing, Madurai Medical College, Madurai.	A study to assess the effectiveness of Breast crawl on selected outcome among mothers admitted in labour ward at Government Rajaji Hospital, Madurai	Approved

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.

6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

Member Secretary **Chairman**
Ethical Committee

26.2.14
DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

20/2/14

To
The above Applicant
-thro. Head of the Department concerned

APPENDIX-IV

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A- Socio Demographic data and Clinical Data

SECTION B- Clinical observation checklist, latch scale and numerical visual analogue pain scale.

Prepared for data collection by M. Komalavalli, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS ADMITTED IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI"** has been validated by me.

26/5/14

SIGNATURE OF THE EXPERT

NAME:

PROF. & HOD
DEPT. OF O & G
Madurai Medical Colleg
Madurai

DESIGNATION:

DATE:

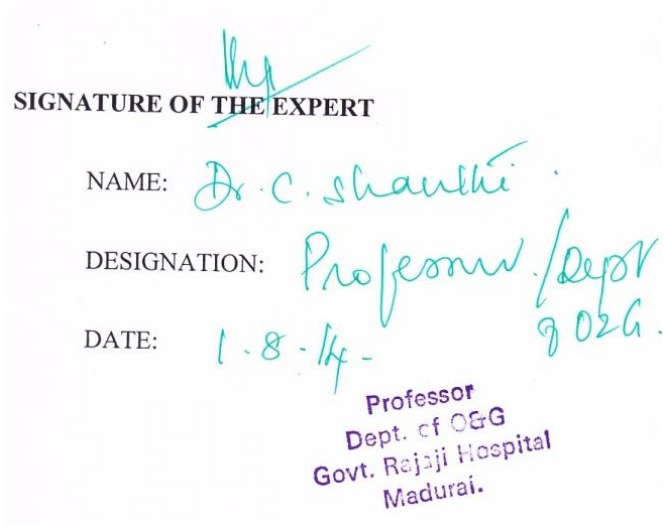
CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A- Socio Demographic data and Clinical Data

SECTION B- Clinical observation checklist, latch scale and numerical visual analogue pain scale.

Prepared for data collection by M. Komalavalli, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS ADMITTED IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI"** has been validated by me.



CERTIFICATE OF VALIDATION

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SECTION A- Socio Demographic data and Clinical Data

SECTION B- Clinical observation checklist, latch scale and numerical visual analogue pain scale.

Prepared for data collection by M. Komalavalli, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS ADMITTED IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

NAME: P. SHANTHI

DESIGNATION: Professor

DATE: 24/7/14

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A- Socio Demographic data and Clinical Data

SECTION B- Clinical observation checklist, latch scale and numerical visual analogue pain scale.

Prepared for data collection by M. Komalavalli, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS ADMITTED IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI"** has been validated by me.

T C

SIGNATURE OF THE EXPERT

NAME: T.C. SUGUNA

DESIGNATION: Professor

DATE: 8/8/14.

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A- Socio Demographic data and Clinical Data

SECTION B- Clinical observation checklist, latch scale and numerical visual analogue pain scale.

Prepared for data collection by M. Komalavalli, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF BREAST CRAWL ON SELECTED MATERNAL OUTCOMES AMONG MOTHERS ADMITTED IN LABOUR WARD AT GOVERNMENT RAJAJI HOSPITAL, MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

NAME: R. AARTHY SOOD!

DESIGNATION: Ass. PROFESSOR.

DATE:

CERTIFICATE OF TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation "**A study to assess the effectiveness of breast crawl on selected maternal outcomes among mothers admitted in labour ward at Government Rajaji Hospital, Madurai**" done by Mrs. M. Komalavalli, M.Sc Nursing IIYear student, College of Nursing, Madurai Medical College, Madurai-20 has been edited forTamil language appropriateness.

Name : அ.கோவதி எம்.ஏ (தமிழ்)

Designation: தலைமை ஆசிரியை எம்.எட் ; எம்.பில்

Institution : அரசு மேல்நிலைப்பள்ளி, சாலைமறைக்குளம் - 626 607

அ.கோவதி
07.08.14
Signature

தலைமையாசிரியர்,
அரசு மேல் நிலைப்பள்ளி,
சாலைமறைக்குளம் - 626 607.
விருதுநகர் மாவட்டம்.

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation "**A study to assess the effectiveness of breast crawl on selected maternal outcomes among mothers admitted in labour ward at Government Rajaji Hospital, Madurai**" done by Mrs. M. Komalavalli, M.Sc Nursing IIYear student, College of Nursing, Madurai Medical College, Madurai-20 has been edited forEnglish language appropriateness.

Name : G. SAKUNTHALADEVI M.A.B.Ed

Designation: P.G. ASST (ENGLISH)

Institution : Govt. Hr. Sec. School,
P. Pudupatti - 626104

Signature

G. SAKUNTHALADEVI, M.A.,B.Ed.
P.G. Asst. (English)
Govt. Hr. Sec. School
P. PUDUPATTI - 626 104.
Virudhunagar Dt.

APPENDIX - V

ஆராய்ச்சி ஒப்புதல் கடிதம்

பெயர்: வயது: தேதி:

ஆராய்ச்சி சேர்க்கை எண்:

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது.எனக்கு விளக்கப்பட்ட விபரங்களை நான் புரிந்து கொண்டு நான் எனது சம்பதத்தை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சிலிருந்து எந்நேரமும் விலகிக் கொள்ளலாம் என்பதையும் அதனால் எந்தபாதிப்பும் ஏற்படாதுஎன்பதையும் புரிந்து கொண்டேன்.

நான் இந்த ஆராய்ச்சியின் விவரங்களை ஆய்வு செய்பவரிடமிருந்து பெற்றுக்கொண்டேன். நான் என்னுடைய சுய நினைவுடனும் மற்றும் முழுச்சுதந்திரத்திடனும் இந்த ஆராய்ச்சியில் என்னையும் என் குழந்தையும் ஈடுபடுத்திக் கொள்ள சம்பாதிக்கிறேன்.

கையொப்பம்

APPENDIX - VI

BREAST CRAWL

INTRODUCTION

This is a mother and baby friendly document. Hence it starts with 'Ten Steps to Successful Breastfeeding' which also form the basis of 'Baby Friendly Hospital Initiative'. This document aims at strengthening 'Step 4' by focussing on nature's miraculous way of initiating breastfeeding by a phenomenon called 'Breast Crawl'. It was first described in 1987 at the Karolinska Institute in Sweden. Marshall Klaus reviewed many studies on Breast Crawl and gave a beautiful description of Breast Crawl in 1998.The credit for using the word Breast Crawl as a noun for the first time should be given to Klaus. The starting position for Breast Crawl (nose of newborn in the middle of mother's breast, eyes at the level of the nipples) had been specified by Varendi.et al in 1996.In India Breast Crawl was first experimented and continued as a method to initiate breast feeding in 'Grace Maternity Home', Mumbai.

MEANINIG

Every newborn, when placed on mother's abdomen soon after birth, has the ability to find its mother's breast all on its own and to decide when to take the first breast feed. This is called Breast Crawl**.**

METHOD

The Breast Crawling procedure can be described in following steps. Immediately after delivery and baby started breathing well, baby should be thoroughly dried except for hands. Baby is then shown to the mother, kept close to

her and held briefly in cheek to cheek contact which enables mother to kiss the baby. Then the baby is placed prone in between the mother's breasts. Both the mother's and baby's chest should be kept naked enhancing baby's full skin-to-skin contact with the mother. Mother and baby should be covered with a cloth. Kicks from the baby will give tender firm jerks to the womb stimulating it to contract which helps to expel the placenta and thereby reduces bleeding. Baby starts salivating once it realizes food is in close proximity. The odour of breast acts as strong stimulus to drive the baby towards nipple because the odour of a substance secreted by breast is similar to smell of a substance in amniotic fluid. Nipple massage by baby makes it protract enhancing attachment and also helps to release oxytocin in mother thereby reducing bleeding and maternal anemia. Baby starts to make mouthing movements. The amniotic fluid in baby's hands guides it to the nipple. The baby then reaches nipple, raises head and gets nicely attached onto the nipple with mouth wide open to take a mouthful of breast. The first skin-to-skin contact must continue until baby finishes her first breast milk.

Breast crawl consists of nine steps. The nine instinctive stages include 1) the birth cry, 2) relaxation, 3) awakening, 4) activity, 5) resting, 6) crawling, 7) familiarization, 8)suckling, and 9) sleeping. The birth cry (1st stage) occurs immediately after birth as the baby's lungs expand but usually ends abruptly when the baby is placed onto the mother's chest. Relaxation (2nd stage) begins when the birth cry stops and usually lasts 2–3 minutes during which the baby is very quiet and still. Awakening (3rd stage) begins with small head movements, as the infant opens his eyes and shows some mouth activity. During activity (4th stage) the baby has more stable eye opening, increased mouthing and suckling movements and often some rooting. Resting (5th stage) can occur at any time between the other

stages. Many assume, when babies were resting, that they have given up trying to find the breast and seem to clearly need assistance to breastfeed successfully. With knowledge of the nine instinctive stages, we know this is simply a normal stage and babies will move on when they are ready. Indeed, rushing a newborn to the breast during a resting stage is usually counterproductive. During crawling (6th stage) the baby makes short pushing exertions with his feet or slides his body towards one of the mother's breasts. The baby may lift the upper torso and bob his head in a clear effort to get near the breast. After reaching the breast, familiarization (7th stage) begins and may last up to 20 minutes while the baby becomes acquainted with the nipple by licking, touching and massaging. During all of these stages, the baby moves in a purposeful manner but without frustration or hurry. The challenge for those observing is to relax, leave the baby and the mother alone and marvel at the amazing drama unfolding as the baby finds the breast, latches and suckles without assistance or interference. After adequate familiarization with the new environment and mother's nipple, the newborn opens his mouth wide, cupping the tongue which is now low in the bottom of the mouth, grasps the nipple in a correct latch and begins to suckle (8th stage). This usually occurs about an hour after birth. Sleeping (9th stage) follows usually between 1.5 and 2 hours after birth.

BENEFITS OF BREAST CRAWL

Early initiation offers several advantages to the baby and the mother.

- Helps to keep the baby warm
- Leads to faster and effective achievement of feeding skills by the baby
- The baby starts getting colostrum as the first feed. Colostrum has high concentration of antibodies (immunity). Baby starts getting colonized by

safe germs (bacterial flora) from the mother. Both these offer protection against infections and hence are important for the baby's survival.

- Helps uterine contraction, faster expulsion of the placenta, reduces maternal blood loss and prevents anaemia.
- Leads to better sugar levels and other biochemical parameters in the first few hours of birth.
- Earlier passage of meconium (first blackish-green stool) and hence decreased intensity of normal (physiological) newborn jaundice.
- Early and long term breastfeeding success.
- Better mother-infant bonding.
- May have a role in boosting development of baby's nervous system.

PHOTOGRAPH

The Researcher checks the height of the uterus

The Researcher explains about breast crawl Technique